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## Farm Department.

Conducted by J. H. Brown, who lives on his farm at Climax, Mich., which is conducted as the Michigan Farmer Experiment Farm. All correspondence for this department should be sent to Climax, Mich.

### SPONTANEOUS COMBUSTION IN HAY BARN.

I have never believed in the theory of spontaneous combustion occurring in masses of partially dried hay stored in the mow or stack. I do not know but that I shall have to change my opinion and say that it is in some cases possible, even when barns are very lightly insured.

The season of 1896 was very wet. We attempted that year to put fifty acres of very heavy green oats into the mow as hay. It was very difficult to get it properly cured. It is a hay at its best difficult to cure and, with the almost constant rain, there was continuously before us the temptation to rush the oats into the barn as soon as it would possibly do. Into the barn, 40x60x20, we packed 165 heavy loads. None of it was very dry, and some of it only half cured.

When the barn was about half filled there were presented great evidences of heat. Vapor escaped from the surface of the mow like steam, and in the basements for a few days there was so much steam that one could scarcely breathe. It was exactly as though the exhaust from an engine had been turned into the building.

The timbers supporting the mow floor became too hot to admit of being touched by the naked hand. I confess, I was not a little worried by these phenomena but I kept right on putting in hay and did not even take the precaution to take out a larger insurance.

In 1897 we fed out perhaps one hundred loads of this hay and saw no signs indicating the presence of fire, although at once place where the green hay had been densely packed, in the center of the mow and directly under the track, there was a great deal of hay that was brown, almost black, looking perhaps like ensilage, "or more so." This brown hay had an acid taste like ensilage, not at all unpleasant, rather palatable, and we noted that the stock ate it very well, better, in fact, than if it had not been burned.

Last summer we filled the mow again with clover and alfalfa, and this year we are making desperate efforts to feed it out so as to make room for our incoming alfalfa crop. On penetrating into the brown mass we found evidence of heat, greater than we supposed was ever present there. For instance, the straw and stems of the oats are so tender and fragile that the fork thrust into it comes up without bringing any hay. The brown color has turned to black. There is, as some would suppose, no appearance of de-

cay but only of the mass having been subjected to intense heat.

A surer sign than this is seen in the cornstalks, a few of which had been raked up with the oats in the field. These are blackened and brittle and upon breaking them every fiber in the interior is black and carbonized. It now seems evident to me that one thing alone prevented a great conflagration—there being no air in the mow. The oats contain some air, of course, but this uniting in such a way produced the heat of which we have spoken and turned the moisture of the oats into steam, and, this happening, it escaped, and all of the air with it.

I believe had I become excited, and with forks undertaken to dig down into the mass to see what was going on there, and thus let in a good supply of air, that it would have ignited at once and we would have had a sudden conflagration that it would have been impossible to quench, instead of the slow burning and gradual smothering out which we did have.

If there is any lesson to be learned from this it is that when one suspects spontaneous combustion he had better go away on a picnic or visit relatives or something while the mass is cooling off, for experience abundantly indicates that when these hot masses of hay are stirred with the fork, and the air allowed to penetrate, it at once bursts into flame that it is impossible to quench.

My friend Mr. Lyman, of Connecticut, told me last summer that he had recently lost a fine barn from spontaneous combustion, he was almost certain. If this theory be accepted the wonder is that the occurrence is not more frequent. For every year hay in almost every stage of greenness and ripeness is put into the mow in thousands of barns.

It seems that the silo would be occasionally the seat of spontaneous fire, but I have never heard of any such occurrence.

Champaign Co., O. J. E. WING.  
(It seems to us very certain that spontaneous combustion, so-called, can readily occur, under certain conditions. We have seen and heard of numerous instances under somewhat similar conditions as those related by friend Wing.)

The ignition and combustion of any inflammable substance is secured by a chemical combination. In order to accomplish this, oxygen must be more or less freely admitted.

It is doubtless true that there have been thousands of instances in which great heat has been generated by mowing or packing away green oats, wheat, grass, corn fodder, etc. In a majority of cases no serious combustion results from this great heat, simply because the supply of oxygen is cut off.

With the settling together of any such green or watery mass, carbonic acid gas is generated, along with a rapidly rising temperature. The whole mass passes through a stage of fer-

mentation, and, if not disturbed, hermetically seals itself from the air, which contains oxygen.

This is what takes place in the silo and in hundreds of large, tightly-boarded barns during the "haying and harvesting" of a wet season. The "proper thing" to do in such cases is to let the heating mass severely alone, as friend Wing says.

In this connection we will state that this heating process, of corn fodder, clover, etc., with its attendant fermentation, has a sort of "canning" effect upon the mass, somewhat as with canned fruit.

#### CUT CLOVER EARLY.

If we had a large, tight barn, and a big crop of clover to cut, we should try this canning process every season. The clover should be cut before hardly any of the blossoms begin to brown—that is, cutting must commence early in a large field, in order to finish the field before the last of the clover becomes dead ripe and largely composed of woody fiber.

To make the very best clover hay, cut early, half cure in the swath, then rake up and put into large, well-formed bunches or cocks. Let these bunches stand from twenty-four to thirty-six hours, then open each bunch for two or three hours before commencing to haul into the barn.

Such clover, cut early, will sweat in the cock, and not heat nearly so much in the mow. When taken out in the winter it will be found to be bright and of a greenish color.

There will be no spontaneous combustion, if left alone for some time, but there will be the greatest exhibit of "spontaneous" consumption by all kinds of stock, whenever the animals get a chance at it during the winter.—Ed.)

#### FARM EXPERIENCES.

I have been watching with considerable interest the process of putting in a large field of oats, by a man who has suddenly expanded his acreage by putting in twenty-eight acres more than usual. He took considerable pains until he began the last fifteen acres. Then he did all right in fitting the first four, although the entire fifteen were hurriedly plowed, not stopping to correct any slips of the plow.

The first four acres he pulverized with a disc harrow, then rolled, and then harrowed, finally drilling in the grain. The next five he did not use the disc, and the last six he sowed broadcast upon the rough furrows, and harrowed once. I presume he will roll the whole piece after the grain is up and thus smooth the surface so as to permit the reaper to work, but this late work will not save the grain which was wasted in sowing on the furrows, or give a fine tilth to hurry up the late seeding.

It would seem to me that the late sown needed extra fine culture to give them a chance to overtake the season. This is not, however, an isolated case. It is very common to see farmers who

undertake more than they can accomplish, slight and hurry their work, and I believe oats are more frequently slighted than any other crop. The weather is catching, and in order to get them in between rains a part of the field is hurried.

I do not raise oats, as a rule, but I grow crops which cannot always all be got in just the day I should wish, and I have adopted the practice of fitting the ground in strips and planting when ready, and then if a rain breaks me off for a week I have a part growing. If one has ten acres of oats to sow is it not better to get in five, and then go at the remaining five?

"But they will not ripen together," my neighbor says. That may be, but the pieces can be cut separately. The difference in the work will not amount to more than two or three hours. I have been setting strawberries off and on for two weeks. Toward the last I wanted to do something else very bad. Had I followed my neighbor's way, I should have slung the last thousand into the ground in most any way, and probably lost from ten to thirty per cent. As it is, I have been able to find but one missing in a number of thousand. I have yet about a hundred to set to fill out a little corner, and these I shall take up with extra pains, letting the earth adhere to the roots, and probably taking three times as much time as if done six weeks ago.

#### WOODCHUCK EXPERIENCE.

For the last two years woodchucks have been on the increase. My dog became aged and finally died, and this spring I found it necessary to make some decided move on the woodchucks or they would make me move onto some other farm.

I have half an acre of early peas bordering upon a sandy hill which was rescued from the forest four years ago. I have already had to treat seven burrows, and I noticed just now another freshly cleared out, and I shall have to fumigate this before night. Some were in sight when we plowed, and others probably have been obliterated in former plowings and now reopened.

My method of fumigating is to take an old dry strawberry box and pour about a tablespoonful of flour of sulphur into it. Then I fill it with wood shavings and some fine chips, and set it down as far as possible into the burrow. I have a piece of sod ready, and after lighting the shavings and seeing that they are likely to burn, I put the sod over and quickly stop all crevices through which the smoke comes, with some of the fine earth dug out of the hole.

In ten experiments only two have failed, and one of these was because the fire went out. Some have been closed sixteen days, and no signs of digging out, so I conclude the remedy is effective. The fumes of brimstone or sulphur strangle very quickly, as I found, accidentally inhaling one breath some years ago, and I doubt whether it takes more than one full



breath of dense smoke to lay out a woodchuck.

There is no dangerous combination in a spoonful of sulphur and a box of shavings, and one can keep a lot of the boxes prepared and take some to the field and fumigate when the team is breathing, or when going to salt sheep or on any other errand across the farm. By treating holes at once after running in a "chuck," positive results may be obtained. The earlier in the summer the work is done the more likely one will be to destroy whole families, and this will prevent the opening of many fresh holes in the meadows and cornfields later on.

#### EARLY POTATOES.

I have carried out my project of planting all my New Queen potato seed, and now have between four and five acres in at this date, May 14th, some having been planted a month, and large enough to cultivate. Unlike last year, the potatoes grow rapidly, and the weeds slowly, which of course is a very nice change in the program.

As yet I have seen but four bugs, and these were on a volunteer hill. I shall set small boys to picking bugs just as soon as they can find twenty an hour, as I believe it is labor well invested. The killing of a laying female or the removal of a single leaf with eggs means the destruction of enough bugs to destroy from one to a dozen hills; and if they come in such droves as last season this will be the only way to succeed in getting a crop.

Last year they were so numerous that it was impossible to poison them all before they had ruined a portion of the crop. I shall also get my poison and middlings some time before time to apply it, and commence in season. Just now buyers are paying \$1.10 for potatoes, and it seems likely that my early potatoes will bring me a good price.

Ohio.

L. B. PIERCE.

(Some farmers still refuse to believe that the seed bed for oats should be as thoroughly made and compacted as for wheat. But thousands of our most progressive farmers do believe, and practice as well.

Your treatment of woodchucks is a good one. Some also use bisulphide of carbon, closing each end of the hole in the same way you suggest.

We find quite a number of brother farmers have already purchased arsenic to use instead of paris green to kill the bugs. It is cheaper, more effective, and only one-half as much is needed.—Ed.)

#### DITCHING IS SPRING WORK.

Preparations for spring work are being brought to a focus on our farm. Never did we have so much work in view as we have this spring—fences to build, individual nests to make for the brood sows, beside ditching and clearing a field for corn.

For several years back we have wanted to ditch a certain field, but for lack of time, and other obstacles, we thought it prudent to let this particular field remain for pasture and drain some of the wet places in other fields.

But this spring we concluded to "buckle on the armor" (spading iron) and go in for the work. It was a heavy ditch, sixty rods of which would average about four feet deep. In this we used six-inch tile. The other part of the ditch was not so deep, and its tributaries few, so we finished up with five and four-inch tile, beginning at the mouth and laying up stream.

Our farm had just a mile of blind ditch before the one under construction, and we are sure if some of our fields had more tile in we would get better crops, though there are no puddles standing, except the surface water in a wet time.

The writer has laid the tile in over two miles of ditch, dug more than one, and is now getting acquainted with the work.

A good ditch is good property, and I believe they are one of the things that the farmer can run in debt for with the assurance that it will pay for itself in a short time, if not the first year.

Our ditching this spring will cost us a little over \$60. Will we get our money back; if so, when?

The land that it has made was worthless heretofore, even for pasture, as it was not located so that it could be pastured, only in the fall or early spring. The value of pasture on this land has always fallen below the tax rate, or, in other words, we have not gotten enough from it to pay the taxes.

There are seven acres of this land. If it goes 100 bushels to the acre of ear corn the corn alone will be worth \$175, at 25 cents per bushel.

Some may think this is counting the chickens before they are hatched, but on a firmer field of the same kind of soil and treatment we have secured even better results than this.

Then, as to the looks of a farm. Wet fields full of old logs and stumps are an eyesore to the writer, and the time I hope is coming when we can plow our farm, if we wish to, in half-mile strips. Only one more field to ditch after this spring, and we can accomplish the feat.

I have been asked the question, "Will water run in a perfectly level ditch?" To this I would answer, yes. But I find in taking up old ditches that were on a level (or said to be) that they were a little more than on a level, for the water in places had actually to run up hill in order to get out.

But it will do this when the ditch is first put in, although in time fine particles of sand collect in such low places, and after they once get settled together and dried, any amount of water without force above will fail to wash out the particles of sand, and the ditch soon becomes worthless. But a ditch of forty or fifty rods, with six inches fall, will never collect sand or gravel, providing the bed of the ditch is on a perfect slant.

Yet the great trouble with a level ditch is that somewhere on the line a low place is made, unknown to the digger and farmer, unless they have had lots of experience at the work and know what they are doing.

We put in one ditch four years ago, twenty rods of which was on a level. We did this in order to reach a certain low place, but had plenty of fall above, which will always keep the level part in good working order.

To find the fall in a ditch, set a solid stake at each end of the ditch, then stretch a seine twine from one stake to the other. Go to the center of the line with a spirit level, and if the line is level, all right. If not, make it so by raising or lowering one of the ends at the posts.

If the seine line is dry—and it must be to do good work—it does not matter if the line sags a little, but one must know, when the line sags just where the center is or else there will be an error in the amount of fall. If from where the line is secured to the post at each end it measures the same number of inches to the bottom of the ditch, you may know that the ditch is level.

If, on the other hand, the post at head of ditch measures less than it does at the mouth, then the difference between the figures, from line on post to bottom of ditch, gives just the amount of fall between posts.

Before beginning a ditch we usually take a square and level, also a three-legged contrivance of our own make to hold the square to place. When we once get it in position and level, we begin at the lower end of water-course, pointing the square up stream toward a target about two rods distant.

By taking down the number of inches from top of square to the level of the ground, also from where the eye sights the target by sighting over the square, endwise, like sighting over a gun barrel, the difference between figures gives the number of inches of fall.

If the ditch is more than ten rods in length, I would move the square and level to place of target, and the target farther up stream, and sight two or more times, depending on the length of ditch. The target can be made out of most anything. We use a stake with figures indicating just an inch, like a foot rule or yard stick. The target has to be driven into the ground to hold it in place, so we allow five or six inches for a point before commencing to mark off the inches on the stake or target.

Figure one should be marked on the lower end of the target, just above the mark on the stake that is to be on the level of the surface, continuing upward with the figures till the top of stake is reached.

Two men can sight out a ditch much quicker accordingly than one can. By having one man at the square and one at the target, the man at the target can place his finger on the target for the other man to sight to, he raising or lowering his finger at the request of the other fellow till it is just right.

The target man does not have to measure, for his finger is already on the figure that gives the number of inches to the ground, which helps to hasten the work.

It is not policy to try sighting more

than ten rods at a time, for on a longer distance the naked eye sometimes is quite deceiving. Where one has good eyesight this method is preferable to the line, although with the line mistakes are less liable to happen.

Hillsdale Co., Mich. ELIAS F. BROWN.

(We find farmers in all portions of the country anticipating the doing of more or less ditching sometime, even though they have not a single rod of "crockery" buried on the farm.

It certainly pays to ditch land that needs it, and especially if such land can be readily utilized for certain purposes.—Ed.)

#### FERTILIZING MICROBES.

From Our Paris Correspondent.

To be able for a few francs to purchase a philter of yellow powder, that will augment the yield of wheat 30 per cent, to supersede top-dressings of nitrates, and leave the soil with an adequate supply of nitrogen for three years, have "caught on" with German farmers, and as some French agriculturists intend to try the innovation, the subject demands examination. Then it is scientifically curious. Messrs. Hellriegel and Wilfart a few years ago discovered the property that leguminous plants, as clover, lucern, lupin, etc., possess powers of utilizing directly atmospheric nitrogen. They showed that the extreme points of the hair rootlets of these plants were covered with small knots, called "nodosities," into which they absorbed nitrogen from the air and prepared it for plant food. That fact explains now to farmers why nitrogenous manures are unnecessary for clovers, etc., and why the latter plants enrich the soil in which they grow. Scientists explained the matter by tracing the property of the roots of leguminous plants to shelter special bacteria—let us say microbes—that absorbed the nitrogen and worked it up for the nutrition of clover. Practical experiments confirmed the truth, and hence originated the idea to sow such microbes in the soil; in a word, to inoculate it with the earth upon which the leguminous plants had so well flourished. It was not startling to conclude the property of a cultivated plant to draw nitrogen direct was not confined to clover; the laws of nature do not act in that selfish manner—they may act differently. Cereal plant-roots have no nodosities, but was it not possible they commanded that power in another manner? Such was the view of M. Caron, who quietly executed experiments on his estate in Ellenbach, in West Prussia. He obtained and isolated from various soils—fallow, clover fields and meadow—the microbes they contained. He was peculiarly struck with one species of microbe, straight, like very small bits of thread. He bred that microbe, following the usual process, in a prepared liquid; he poured some cubic inches of this liquid upon pots of earth wherein he had sown oats, white mustard and other non-leguminous plants. One pot was left free to act as a standard, and representing the type figure of 100. All the pots that were microbed yielded 10 to 35 per cent of an increase. Next he undertook the experiment in the field; he produced the microbes on a large scale, and to every one cut of seed oats he wetted with 3½ pints of the liquid in which the microbes were reared, so that each grain of oats had 500 to 1,000 spores or seeds of the microbe upon it. Mustard seed was similarly treated, and at harvest the yields were 10 to 35 per cent greater than on the land which received no treatment of the microbes. Since 1894 M. Caron has steeped all the seed of his cereals in the microbe solution, and the results continued to be satisfactorily superior. His experiments were made upon a large scale, and under the conditions of ordinary culture.

Dr. Stocklase, director of the important laboratory of Prague, next took up the study of Caron's experiments. He showed that the microbe Caron regarded as new was really that peculiar to decomposing cabbage leaves, and was general in water as well as in soils. It was the bacillus megatherium, discovered some years previously by Bary, and corroborated by Koch. Aided by his two assistants, Stocklase made an exhaustive study on this microbe; he showed that it required oxygen in order to live; that it was a "denitrifier," that is, place in matters containing a nitrate and it will decompose it in 75 days. Further, in the same space of time, it will decompose organic matters containing nitrogen, converting the latter into a solu-

ble form, as plant food, to the extent of 22 per cent, while the same matters, unaided by the microbe, set free but 4 per cent of nitrogen. Stocklase demonstrated that ordinary turf, or peat, which contains less than 1 per cent of nitrogen can, under the influence of this microbe, yield an accumulated quantity of soluble nitrogen as high as 42 per cent. These are very strange and practical truths—because any scientist can control them. Thus soils rich in humus, under the influence of the microbe, can be made to rapidly produce the soluble nitrogen so essential for plant nutrition. M. Stocklase next conducted experiments in pots, with soil of the usual character, and impregnated barley seed with the microbe. In 62 days the soil was enriched with a stock of nitrogen, while the produce was luxuriant—a tell-tale pot side by side revealed these facts. He concludes: These results, securing a supply of soluble nitrogen, can only be obtained by cereals and the action of the microbe. Stocklase is now occupied to study how this power of plants—still obscure—works; what is its mechanism, etc. He thinks a plant transforms its carbonaceous matters into a saccharine matter, that forms a peculiar breeding ground for its microbes, and facilitates their aptitude to manipulate the nitrogen; only in the case of clover the nodosities prefer the nitrogen direct in the gaseous form, while in cereals the solution stage, and obtained from decaying organic substances, as well as directly from the atmosphere, are the ways and means. M. Caron is an extensive manufacturer of colors and chemicals at Elberfeld, as well as the owner of a large estate. The liquid in which he breeds the megatherium microbes he dries till it becomes a yellow, shapeless powder; it is in that mass the seeds or spores of the microbes reside. He places that powder in philters, or tubes, carefully sealed up and stamped, and calls the product "Alinite." Any up-to-date farmer can aid the solution of the very interesting question involved by making an experiment. Thirty per cent more grain per acre means nearly one-third more cash.

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## Live Stock.

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### SUGAR BEETS OR MANGELS.

To the Editor of The Michigan Farmer.

Will you kindly state which, in your opinion, is best for stock food—sugar beets or mangel wurtzels? Will either do well on low, heavy, mellow soil? If not, what kind of soil is most suitable for them? And at what time would you sow them?

Somers, Mich.

A. W. F.

A low, heavy soil is not suitable for any kind of a root crop. The question in your case will be, has the under-draining been so thoroughly done that the soil will dry out quickly and remain mellow. Moisture in the soil is very injurious to a root crop. On moist soil sometimes a heavy yield may be secured, but the quality is sure to be poor, and their keeping qualities bad. The mangel will do better on such soils than the sugar beet. The latter requires a warm, rich, mellow soil, just such as gives the highest quality of potatoes. In fact, good potato soil is a good soil for roots of all descriptions. We have seen good crops of mangels grown on reclaimed marsh lands; but it was after they had been thoroughly drained. On well drained marsh land the soil is mellow and rich, and roots grow to an enormous size. This is so in the case of onions and mangels especially. But if conditions are not suitable, the roots will be coarse grained, stringy and full of moisture. Those grown on upland are closer grained, firmer and contain less water. Of the feeding value of sugar beets and mangels, the former are the richest, and generally better liked by the stock. But the mangel can be more generally grown than the beet, and more productive in a majority of cases. Either are excellent for live stock, and not only a good feed but a great aid to digestion where the animal is on dry feed. It will make your grain rations more palatable and digestible to feed a few roots with them, and the animals will make better growth than on dry feed alone.

The seed should be sown for both sugar beets and mangels about the middle of May, depending on the season. The ground should be warm before the seed is sown, and in a thorough state of cultivation.

For the Michigan Farmer.

### HOG NOTES.

During the past six months the change in the style of the finished hog can help noticing the difference. Heretofore a pig that weighed 100 pounds has been so great that no swine raiser or 125 pounds and not too fat was considered the "cream of the market." To-day, however, it is different. Lard seems to be one of the qualities that stock buyers are looking after and the market price is quoted from 25c to 50c more per hundred pounds live weight for the heavy grades than for the extremely light ones. On one farm during the past few years we have made a practice of keeping several brood sows so that we could turn off the pigs just when they would bring the highest market price.

Farmers everywhere have done the same thing and to-day there is a surplus of brood sows and pigs in the country, providing the farmers keep their pigs till they are old enough to bring the highest market price. This is something I do not expect to do, although I know it is generally wise to finish off one's produce so as to bring the best price. The first 100 pounds of a pig is the cheapest to raise, so this will help to offset the more valuable grades.

Experience has taught us that we can no longer afford to confine our pigs to small yards with an insufficient amount of grass to pasture upon. Little pigs require grass to nibble at just as much as their mothers do. With plenty of grass—an acre to fifteen head—a little milk and middlings and shelled corn given the pigs as they require it, it will make a marketable hog almost before one knows it. Weaning the pigs is something that should not be neglected just as soon as they are well taught to eat. When they once get in the habit of eating in a certain place they are sure to be on hand at meal time and I know that they will do enough better to pay for the extra labor required in feeding. Then the sows can be bred earlier and two lit-

ters a year made more possible. I think two litters a year can be raised successfully on some farms but our farm being heavy clay makes it almost impossible to keep pigs in yards during the spring months at a profit, so we are going to raise only one hereafter, and select our brood sows from our spring litters and dispose of the older sows each spring just as soon as we can get them in shape after weaning the pigs. By so doing the brood sows will do to sell every spring after they get their growth and the smaller pigs can just as well be growing into brood sows as to keep a lot of full grown hogs on hand at a loss.

ELIAS F. BROWN.

### DEHORNING CATTLE.

Dr. H. H. Lamson, of the New Hampshire College Experiment Station, in a recently issued bulletin discusses the question of dehorning cattle, and also the prevention of the growth of horns in calves. He favors the latter course as being the more humane, and because it avoids the disagreeable features of dehorning mature animals. The horns of cattle, he explains, consist of two parts of different origin: the outer horny shell is a growth derived from the skin; the inner part, or pith, consists of bone, and is the outgrowth of the skull. At the birth of the calf each of these parts is undeveloped and only exists as a possibility, but they at once begin to grow, and in a short time the young horn can be felt as a slight elevation or button.

The horn tissue develops from the skin just as do hoofs and claws in the lower animals and nails in human beings. There is a zone in the skin about the base of the horn known as the matrix, from which new horn-cells are constantly being formed, the older parts being pushed on. If we destroy the periosteum from which the bony part of the horn is formed and the matrix from which the horny part is formed, we prevent the further development of the horn. In removing horns which are already more or less developed, as in dehorning mature animals, the cut must be made deep enough to include the matrix or the stump of the horn will continue to grow. It may not be out of place here to remark that there is no danger of cutting into the brain cavity, as at this point it lies very deeply. The openings frequently seen on removing the horns are only empty spaces with which the frontal bone is honey-combed.

In calves the growing points of the horns are small in extent and can be destroyed with little trouble. In our experiments we have made use of caustic potash. Caustic potash, so called, is a pure form of the same substance which constitutes the potash sold in cans for soap-making and cleansing purposes. It is in the form of white sticks, in diameter about the size of an ordinary lead pencil. As its name indicates, it is a powerful caustic, rapidly destroying the skin and other tissues if kept in contact with them. In this property lies its value as a preventive of the growth of horns. When properly applied it destroys the matrix or growing point of the horny tissue and the underlying periosteum from which the bony pith grows.

### THE PIG THAT WILL DEVELOP INTO THE BEST HOG.

A short time ago, at the meeting of the Kentucky Swine Breeders' Association, James Riley, of Indiana, known throughout the west as one of the most successful breeders of Berkshire hogs in the country, gave a short address on "How to select a pig at four to eight weeks old that will develop into the best hog." The subject is one that interests both the breeder and feeder, and what Mr. Riley said is well worth reading, and we give it in full:

The first thing to be examined is the pedigree, for notwithstanding the pig may be an outstanding good one at this age, yet if it does not have the royal blood to back it up, there will be no dependence in its after development. Like begets like is a true law of nature and it holds good in the animal, as well as in the vegetable kingdom. Therefore we want to select our pig if possible from a sow having a long line of meritorious ancestors, and if it has in its pedigree two or three crosses of the blood of such noble hogs as old Bob Lee, bred by Samuel Pryor, of Paris, Ky., or Henry Clay, bred by H. C. Clay, or Old Longfellow or King Lee, or many other hogs of superior merit, it will be all the better. Having

carefully examined the pedigree, and found the breeding of the pig strictly first class, we will select the pig. I would take the score card and carefully note the essential or major points, and the non-essential or minor points; the essential points are those that are given eight or more points; to these I would add the head, as I think the head and jaw indicates feeding quality. The most essential point in my judgment is the chest, as everything depends on the constitutional vigor of the hog. The chest covers the vital parts. We want to examine the pig between the fore legs, and see that the breast bone comes well forward on a line with the fore legs, and see that the fore legs are wide apart and the chest full behind the fore legs. The next in importance is the back and loin. I would want a broad back with ribs well sprung, carrying width of back from the shoulder to the ham, and slightly arched. Be careful to avoid a sunfish back—remember the most valuable meat in the hog is the loin, and the more of it we get the better. The next in importance is the ham and rump; we want the ham wide on top and broad from flank to rear and deep and full; we should remember that feed very largely makes the shoulder, but the ham must be bred. The next essential is the feet and legs. The fore legs should be wide in the arm, well-tapered and set square under the pig and wide apart, the foot should be short in pastern joint, and stand up well on toes; the hind legs should be wide in stifle and straight, the foot short in pastern joint and set well up on toes. The next is the head, neck and jaw; the head should be short, the face, in Berkshires, well dished, widest between the eyes, jaw full and neat neck, short and wide and full on top. The other points are non-essentials, and if the pig is extra good in all the points indicated it will make a good hog if it does lack some in the points not mentioned. I would want the pig reasonably well marked, with a good coat of soft hair, as a coarse-haired pig will not feed well, but I would especially warn young breeders against being led off by the color craze. Some young breeders are so struck with the color craze that they cannot see any merit in any pig that does not have the six white points. The committee of expert judges that made the standard and score card thought the color and tail of so little importance that they only gave color two points and the tail one point.

### LIVE STOCK NOTES FROM FRANCE.

From our Paris Correspondent.

The continued extension of the foot and mouth disease causes much anxiety. Every day cattle are ejected from the market in consequence of being affected with that disease. The farmers themselves, as well as the public, blame the sanitary inspectors. That is wrong, because the inspection staff is devoid of organization; the inspectors are only paid salaries of 800 to 1,000 francs, and that cannot command skilled services. Besides, even at that annual pittance the number of inspectors is totally inadequate. The country is so ground down by taxation that the money cannot be found. The moral is, that the plague cannot be stayed by the existing salvation machinery.

The agricultural syndicate of Saint Omer has voted, that all markets for the sale of cattle be for the present closed, and all railway wagons fully disinfected, till the foot and mouth disease be fully extirpated. The French hesitate to adopt the heroic remedy, slaughtering the affected stock; they adopt generally coddling "remedies," so make matters worse. Large cattle keepers are adopting the plan of paying a veterinary surgeon a fixed annual salary to inspect their stock monthly, and test all, half-yearly by the tuberculin process. When the pulse rises after the injection of the tuberculin, the animal should be at once isolated, and if the disease be latent, kept alive for some time to be fattened. As to being cured, that idea must be abandoned at once. The law will not permit that an animal once attacked with tuberculosis be sold; sooner or later it must be slaughtered. The tuberculin possesses the great advantage of more strongly revealing the presence of the disease, the more the latter is latent. In France, no animal can enter till it be tested with the tuberculin; it is three times examined ere it will be allowed into Paris, and yet despite these

precautions, the city sheds have always tuberculous cows. Now would be the moment for Cherbourg, which boasts of a surplus of cows' milk from the open fields all the year round, to send it up to Paris, by the special trains, and not across the channel to Southampton and so to London. If it keeps fresh on the sea journey, it will not be less shaken in railroading directly up to Paris. Why the difference? An antiseptic "formalin," it is alleged, is employed to preserve it from sickness when crossing the channel; but in France no antiseptic must be added to fresh milk; Pasteurize or sterilize it, but no chemicals must be employed. Belgium intends to test the London market with sterilized milk. London does not suffer from any shortage of fresh milk; French farmers should be told that truth.

Veterinary Professor Mallet, of Toulouse, has taken up arms to defend oat straw against the prejudice of being improper as food. Generally it is selected for bedding, that of wheat, for fodder. The army prefers wheaten straw, though there is no material difference in their respective nutritive values. The chief cab company of Paris, has, since 1883, employed chaffed oat straw for its horses, along with oats, maize, beans and maize oil-cake. Oat straw is said to affect the urinary organs of horses, but this has arisen from the imperfect manner of saving the oats when reaped—left too long lying in the sward. In the case of milch cows, oat straw does not communicate any bitterness to the milk, but it cannot be denied that it changes the color of the cream from yellow to white.

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## The Horse.

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### BREEDING AND CARE OF THE FARM HORSE.

The general purpose horse was a necessity, says a writer in the Farmers' Advocate, when farm produce had to be hauled many miles to market, but now almost every railway station is a market, and the services of this horse are not so much required. The interests of the farmer today are very well served by the Clyde or Shire, the good, chunky block, with a clean-cut head, broad forehead, full eye, arched neck, two heavy ends, and a strong, short middle, broad loins, well-sprung ribs, deep, thick girth, giving plenty of room for heart, lungs and dinner basket, with heavy flat bone free from meat, strong sinews, and last, but not least by any means, good round, tough feet, which, under ordinary circumstances, will last a lifetime without shoes, if kept on the farm. A good hoof that has never been shod will not break, neither slip as easily as a hoof that has been shod, nor nearly as easily as a smooth shoe. Very great care and much pains should be taken to train the young farm horse to walk, as its value all through life depends largely upon its gait. Generally speaking, the heavy horse is naturally a good walker, and, with proper attention, may be trained to walk fast, and it will not often be found necessary to go at a quicker pace. The proper way for the farmer to obtain these horses is to breed and rear them, all of which must be carefully done. The right type of a mare is a first necessity. Even if one has to pay what may appear to be a high price, it will surely prove to be a good investment; then, with a wise selection of a sire, one may expect good results.

Breed early in the season, as we find a mare may be worked with more safety and better results with her colt sucking than when carrying it. Keep the colt in a box stall while the dam is at work; it will very soon take a little oats and bran, also clover hay. A little later feed it some cow's milk, which may be continued with excellent results until the colt is a year old, if one has the milk to spare. Milk is an excellent bone-producer, and with proper care and feeding, a colt may, with judicious handling, be made to pay its way after two and one-half years. This fact lessens materially the cost of rearing heavy as compared with that of rearing light horses. It is better, however, not to load them till they are four years old. Be particular with the harness, have it strong and comfortable. We had an excellent team that did not know there was anything they could not draw, until one day when in a heavy pull the doubletree broke and the nigh mare fell upon her head, and never pulled as well after. Have everything strong, and collars close-fitting, as large collars are much more likely to injure and cause sweeney. Hard, straw-stuffed collars are much safer for heavy work in hot weather than after stuffed with curled hair and re-lined, as then they sweat and scald the shoulders much more readily. Have a light back-band when plowing. This gives the draft in better position on the shoulder, and saves the top of the neck. Do not use a crupper, they are very uncomfortable and no advantage; checkreins should be slack, if used at all. This class of horse must be allowed its natural position to work with best results. Keep the forelock trimmed, for there must be great mislery to the horse and often sad results from allowing the hair to hang over the eyes.

Now for the management and care and feeding of these horses: Give a liberal supply of bulky, nutritious feed; the old system of feeding hay and oats is too expensive, and wears out the horse too soon. Cut hay, not too ripe, good cut straw, corn or ensilage with crushed grain, carrots two or three times a week and turnips every day that one can get them, as they are excellent. Variety is good, but carefully avoid sudden changes; a great many horses are seriously injured in this way. Twice in the year at least—when turned out to grass in the spring, and when taken into the stable in the fall—it is very important to see that proper succulent food is supplied. This, with well-ventilated stables, good, dry, roomy—or, better still, box—stalls, with plenty of good dry bedding, and your horses will be a

source of pleasure and profit. We will find a ready market for all we have to spare, at good prices; in fact, the buyers today will scarcely let a farmer keep a good team of this type. It is the common horse which is deteriorating in value year by year, for the lines of work in which such horses have been employed are now largely performed by electricity, and, consequently, there is no longer a market for them, while such horses as we have described as desirable for heavy work, will never be superseded by mechanical powers.

### HORSE GOSSIP.

An exporter at Buffalo, N. Y., is said to have shipped 5,000 horses to Europe during the past ten months.

The government will not accept docked horses for its cavalry. No tail, no sale, is the rule, no matter how good the animal is otherwise.

Frank Bogash, 2:04½; Bumps, 2:04½, and Planet, 2:04½, will all be out this year and are sure to meet more than once. All are in fine form this spring, and before fall the three should be found inside the 2:04 list.

Lieut. Henry Roach, quartermaster of the Fifth Michigan Infantry (which will be known hereafter as the Thirty-fifth), was on the Chicago market last week purchasing mounts for the staff officers of the regiment.

Ben Brush has become lame, and been declared out of the Suburban Handicap, to be run June 18, at Sheepshead Bay, N. Y. The purse is \$10,000. Ornament is in at 128 pounds, but has to concede weight to every other entry.

The Saginaw race track has passed into the hands of Hon. Wm. L. Webber, and it is doubtful if any meeting will be held there this season, as Mr. Webber never was interested in racing.

In California the general opinion is that Carlyle Carne, 2:11½, will be the champion trotter of the future. J. C. Simpson expresses himself as certain that this horse will beat the present record of Alix.

For the American Derby to be run June 25, at Washington Park, Chicago, 225 entries have been made. Among the probable starters are Plaudin, Traverser, Lieber Karl, Presbyterian, Count of Flanders, Fonsavannah and Morelito.

The two fastest trotters in the world—Alix, 2:03¾, and Nancy Hanks, 2:04, are both now owned in New England. Which fact shows that the west has the brains to breed the fastest trotters, and the east has the money to buy them. This works well for both sections.

The Maxwell & Crouch Mule Company, National Stock Yards, Ill., is in the market for 1,500 domestic horses, 14.1 to 15.2 hands high, broken to ride and drive, practically sound and from 4 to 8 years old. The firm also wants 1,000 pack mules, 14.3 to 15 hands, stout built and in good order. The 2,500 head are wanted for army purposes.

Crockett, a filly by Linden, won the Kentucky Oaks on Thursday last. This is a race for three-year-old fillies, distance a mile and a sixteenth. Lennep, the favorite, was unable to stand the fierce drive at the finish, and Crockett won a good race, with the odds of 5 to 1 against her. Time, 1:51½. There was a great deal of betting done, as this race always brings out the best fillies in the west. There were four starters.

The \$20,000 national stallion race for two-year-olds, distance five furlongs, was run on May 14, at Morris Park, New York. There were eight starters, and the race was a hot one. The winner was Jean Beraud, by His Highness, out of Carrie, who carried 113 pounds. Glenheim, by Hanover, with 118 pounds up, was second, and Miller third. Jean Beraud had over a length to the good at the close, and he had been pulled up some. It is likely, therefore, that, although he carried less weight, he is the best horse.

Is this true? Colman's Rural World says: "To keep horses in health there is nothing like late and early feeding. The long night fast, which is unnatural to the horse, who is a nocturnal feeder, is bad, and the going immediately into hard work on a full stomach is worse. The man whose horses look best in condition, brightest in their skins and coats, and enjoy the greatest freedom from disease, is the man who is at the stable early in the morning—a full two hours before the horses are brought out to work.

At the Fasig sale at Cleveland, O., last week, the sensational young stallion Betonica, 2:10½, brought \$7,800. He is by the half-blood horse Azmoor. The purchaser was Senator Frank H. Jones, of New Hampshire. Five head from Palo Alto Farm sold for \$16,550, including Betonica. The next highest in price was the mare Pasonte, 2:13, by the dead sire Palo Alto. She brought \$2,025. Verily ideas have changed when colts from half thoroughbreds top the price paid for trotting horses. Wonder what the great authorities on how to breed trotters think of the change.

There has been an exceptional demand for cavalry horses in Texas since war has been declared. The Texas horse of the bronco type is said to be especially well suited to the climate and other conditions in Cuba that the northern bred horse could not well endure. The cowboy regiment that is being organized at San Antonio will be something unique in modern warfare. Nearly all are expert horsemen, and the horses have been carefully selected for endurance and speed. Every man is noted for his excellent marksmanship and personal courage. Taken all in all, this is an ideal regiment for doing effective work in Cuba.—Drovers' Journal. We have an idea that horses from the western ranches will be found equally as hardy and well suited to endure the Cuban climate as those from Texas. It will be the small, wiry, active animal that will be best suited for cavalry mounts, as they can endure more, live on less and recover from fatigue more quickly than heavier animals.

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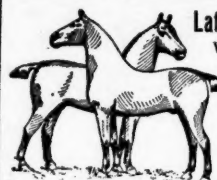
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## Sheep and Wool.

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### ROMNEY MARSH SHEEP.

A reader of The Farmer asks for a description of the Romney Marsh sheep, a breed he has seen mentioned frequently, and wants to know more about. We believe a few sheep of this breed have been imported from England to this country, but we have never seen any of the breed, nor learned how they have succeeded in their new surroundings. For a description of them we must rely upon English writers, most of whom are of course interested in the breed. It will be well, therefore, to allow a little for the pardonable exaggeration of enthusiasm, common to admirers of all breeds of improved live stock.

The Kentish, or Romney Marsh sheep is a large sheep, fully as large as the Leicester, but in appearance resembles the Cheviot. It is a close-wooled sheep, the fleece being quite heavy and long, with good lustre, and the staple has a curl in it which makes it very elastic, and therefore a favorite with the wool spinner. The body is rather long, with a good loin, legs straight and heavy-boned, rather gaunt looking animal when not fattened, with a vigorous constitution, and quite muscular. In its native home it is said to fatten rapidly when pushed for that purpose, but in the average flocks does not carry much flesh naturally. The head is large, being both thick and long, with a broad forehead covered with a tuft of wool.

Crossed with other breeds the Romney Marsh is said to give them size, constitution, and length of staple. It is used in New Zealand to cross on the Merino flocks, and for this purpose is said to be excellent, the resulting progeny having greater size and better feeding qualities, while the wool is of longer staple, and, though coarser, of fine quality.

The question as to where this breed will best succeed will be best answered by giving a description of the soil and climatic conditions in its native home, which are peculiar, and require peculiar characteristics in a sheep to do well under such an environment. The district in the southeast of England known as Romney Marsh, is situated in the County of Kent. It is subdivided into districts known as Romney Marsh, Walland Marsh, Denge Marsh, Broomhill, and East Guilford, comprising an area of about 42,000 acres of pasture land. This marshy district may be termed a peninsula, terminating in its southern extremity at Dungeness Point, and having a sea-board of several miles upon the east and west, while a low range of hills bounds it upon the north and northeast. Probably no more exposed and bleak country can be imagined. Miles may be traversed without seeing a tree or hedge. Severe winds from the east, or gales from the west, sweep across it with full and unchecked force from the sea, while in hot and dry seasons there is no shade or shelter from the burning glare of the sun.

The fields are divided from each other by post-and-rail fences, or by water fences, called "ditches" and "sewers" (for drainage purposes).

The quality of the land in this district, which, geologically reckoned, is a recent reclamation from the sea, varies very considerably. On the one hand, there are parts which, from a rich alluvial deposit, have become pasture of the highest quality; while on the other hand, and closely adjoining, or intermixed, are many acres of the poorest land—hard, stiff, and unkindly clay, or sand and shingle, sparsely covered with vegetation, and only barely sustaining stock in the most favorable seasons.

"Under these circumstances it may be well understood," says an English writer, "that the sheep bred of the soil must be of the most hardy and thrifty nature, and such qualities may be pre-eminently claimed for the Romney Marsh breed. No sheep are better proof against the diseases which from time to time play such havoc and destruction among our flocks. Although none can be said to stand sound against, for example, attacks of liver fluke (or rot), throat worm, or foot rot under favorable circumstances for the development of these diseases, yet the Romney Marsh sheep will be the last to succumb, and is the most likely to withstand them."

### WORM PARASITES IN SHEEP.

We referred recently to the result of a number of experiments published in the Journal of the Royal Agricultural Society of England to test the efficacy of various remedies for internal parasites in sheep. The parasites experimented with were strongylus contortus, or stomach worms, strongylus filaria, or lung worms, and a small nematode worm found in the stomach of several lambs. The substances experimented with were Fowler's solution (arsenic), turpentine, carbolic acid, and lysol. The results obtained showed that none of these substances, with the exception of lysol (a watery solution of tar oils), could be depended upon to kill these worms, although they were immersed in strong solutions of each. The greatest surprise was in the case of Fowler's solution, which was used in greater strength than it could be given to the animals with safety. Commenting on the results obtained, J. McFadyen, of the Royal Veterinary College, says:

"It must be admitted that these experiments are calculated to give a shock to the confidence which has hitherto been very generally placed in some of the parasiticides mentioned. Turpentine is a sheet-anchor in the treatment of diseases caused by the round worms, and there appears to be a considerable body of clinical evidence in its favor, but it will be observed that in the strength of 2½ per cent. (with milk) it appeared to have no serious effect on worms (S. filaria) that had been immersed in it for over twelve hours. Even with double that strength it had no apparent effect after a two hours' exposure. In practice it would be impossible to insure a two hours' contact between worms in the stomach of living sheep and a 5 per cent. solution of turpentine, because of the necessity of considerably diluting the turpentine for administration, and the rapid absorption that sets in as soon as it comes in contact with the mucous membrane of the stomach. It need hardly be pointed out that if the circumstances are so unfavorable for the insuring of contact between a sufficiently concentrated solution of turpentine and stomach worms, the difficulty is immensely greater in the case of parasites lodged in the bronchial tubes or lung-tissue.

"Arsenic also appears to be a very weak parasiticide, since a twelve hours' exposure to Fowler's solution diluted with forty times its bulk of water left the S. filaria still active. This represents a strength of one grain in ten ounces, and a stronger solution could not with safety be kept in contact with the mucous membrane of the stomach for anything like twelve hours. Besides, it will be noticed that even undiluted Fowler's solution (four grains to the ounce of liquid) did not kill stomach worms with a two hours' exposure, and one ounce of Fowler's solution is a poisonous dose for a lamb.

"Carbolic acid and chloroform appear to be much more injurious to adult nematode worms than turpentine or arsenic, but less active than lysol. In each of the series of experiments a 1 per cent. solution of this substance in water proved fatal to the worms in ten minutes, and since half a pint of such a solution may with safety be given to a lamb six months old, the experiments hold out a strong hope that lysol may prove valuable in the treatment of parasitic gastritis.

"It must be observed that while the foregoing experiments discredit the employment of arsenic, turpentine, and carbolic acid in the treatment of animals already ill from hoose or verminous gastritis, they do not prove that these agents are valueless when repeatedly administered in safe doses to apparently healthy lambs as a preventative. For the cure of animals already ill an agent strong enough to kill the adult sexually mature worms is required, and there can be no doubt that the resistance which such worms offer to solutions that are strong poisons to the host is ascribable to the difficulty with which their chitinous integument is penetrated by the solutions. It is possible, however, that the younger worms when they are first taken into the stomach are more easily killed owing to their having a thinner integument. Repeated doses of turpentine may thus be capable of preventing an attack of parasitic gastritis, though powerless to cure it."

### FLOCKS AND FLEECES.

A bunch of Michigan lambs topped the Buffalo market last week. They averaged 78 lbs., and brought \$5.30 per hundred. The bunch numbered 210 head.

The Southdown or Shropshire lamb, or a cross of either of these rams on a Merino ewe, is the most popular in the market, the black faces being thought a mark of superior flesh and fatness.—Buffalo Mercantile Review.

Volume 7 of the American Oxford Down Record Association will be closed July 1. Lambs dropped in 1897 will be recorded at 50 cents per head until that date. The secretary is W. A. Shafer, Middletown, Ohio.

W. F. H., of Onondaga, says that after trying to cure the snuffles in his flock of Shropshires the past spring by tarring their noses, he tried blowing powdered borax into their nostrils, and it cured them right up. Flck hasn't been troubled since.

The Gazette, published at Glasgow, Mont., says: Many sheep owners state that, for the first time in many years, the wool has grown to an appreciable extent throughout the entire winter, and it also got an unusually good growth immediately after shearing last year. All bands in Northern Montana will shear much heavier than they did last year, and the wool will grade higher in nearly all instances than it did in 1897.

Farmers who own sheep are liable to realize considerable revenue from the wool this season. Offers of from 20 to 30 cents are being made, and the dealers are not saying a word about their idea as to whether it will be higher or lower when the market is fully opened. Large orders have been given by the government for woolen goods for the army and navy, and a great deal of the foreign wool in the country has been used. This, it seems, would have a tendency to make this season's clip bring an unusually large price.—Eaton Rapids Journal.

A correspondent asks some questions regarding early pasture for sheep, and wants to know how to put in oats and peas together. It is late to put in this crop, as both do best when they start while the weather is cool. Still, as you only want the crop for pasture, that fact will not make much difference. When you have your land well fitted, sow from a bushel to a bushel and a half of field peas to the acre. It is best to drill them in so the seed will be well covered. In two or three days sow from a bushel to a bushel and a half of oats to the acre, running the drill the other way of the field. The seed should average three bushels to the acre, and you can divide this amount either half and half, which we think is best, or use two bushels of oats to one of peas. The flock can be turned in when the crop is about ten inches high. It would be best to huddle the field off in sections, so it will be fed off closer, and the field not trampled over so much.

W. F. Hunt, of Ingham County, sends a couple of samples of wool from his flock of Shrops. The staple is good.



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carrying more oil than usual with the Shropshire, fibre fine and showing a healthy, even growth. We should judge the samples came from heavy fleeces. The only thing objectionable in them is that in the longest-stapled sample there is more or less dead wool at the end. The sample is said to have been taken from the neck of the animal, and if so it is from the under side, and the sheep has either been lying upon damp bedding or had the wool in that place wet from drinking, as the fibre is weak for more than an inch. A little care in keeping the fleece dry and free from dirt would make it a very fine sample. The sample from the back was more or less mixed with hay chaff and dust. Mr. H. says he has a ewe that when thirteen months old sheared a fleece of 14 lbs. This ewe weighed 106 lbs. when six months old. Good weights in both instances, and considerably above the average. Although he does not say so, we think the sample first referred to came from this ewe, and she should prove a valuable animal in his breeding flock. The sample has good lustre, and the fleece will make a handsome sample when scoured.

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## Farmers' Clubs.

CONDUCTED BY A. C. BIRD.

All correspondence for this department should be addressed to A. C. Bird, Highland, Mich.

### OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

President—E. J. Cook, Owosso.  
Vice-President—Mrs. E. L. Lockwood, Petersburg.  
Secretary—Treasurer—C. M. Pierce, Elva.  
Directors—W. H. Howlett, Dansville; C. J. Phelps, Damon; F. M. Whelan, Vernon; A. L. Landon, Springport; H. Gaunt, Highland; A. P. Greene, Eaton Rapids.  
All communications relating to the organization of new clubs should be addressed to C. M. Pierce, Elva, Mich.

Association topic for June—"The Farmers' Duty Regarding the Temperance Question."

Association topic for July and August—"The Farmers' Duty Regarding the Nomination and Election of Members of the Legislature."

### THE FARMERS' DUTY REGARDING THE TEMPERANCE QUESTION.

The discussion of the Association topic for June is most fittingly led by the Vice President of the State Association, Mrs. E. L. Lockwood, of Petersburg. The temperance question is one to which Mrs. Lockwood has given many years' most careful thought and intense work. Combining this with the facts that she has been during all this time a most faithful helpmeet to one of the most successful dairy farmers in Michigan and that she has demonstrated her right to discuss the question from a mother's point of view by the rearing of a lovely family of children, now men and women grown, our readers will understand why, of all others, Mrs. Lockwood was invited to open this discussion. The additional fact that for over twenty years both herself and her husband have been active in farmers' club work, both taking a foremost part in the organization and development of the State Association, will add a peculiar interest to the discussion among farmers' club people.

In making this discussion the best of the year the farmers' clubs of Michigan will be paying a richly deserved compliment to their honorable vice president and at the same time be doing but simple justice to the righteous cause which she so nobly champions.

### THE PRIMARY SCHOOL FUND—A SUGGESTION.

The primary school fund is apportioned under the present law on the basis of the number of children of school age—between 5 and 20—in each district, providing school is maintained at least five months in each year. It will be noticed that attendance at school is not required, the questions being simply the population of school age and the length of time school is maintained. Would it not be an added incentive to the maintenance of a good school, deserving of the patronage of the entire district, if this fund were apportioned upon the basis of actual attendance at school? We propose to make some investigations along this line, determining, if possible, the effect such a change would make upon the apportionment and distribution of this fund. We shall take occasion to refer to this matter again from time to time, and in the meantime invite discussion of the same.

### REPORTS FROM LOCAL CLUBS.

#### SPRING ARBOR FARMERS' CLUB.

The May meeting was very pleasantly entertained by Mr. and Mrs. A. Avery at their home in Sandstone. A good number were in attendance. Prof. Gavitt favored the club with a very interesting description of the training of our State troops and of camp life at Island Lake. The question of our pure food laws was opened in a very able manner by A. Avery, who read and explained the laws to the entire satisfaction of all present. Hon. H. N. Tefft approves the laws, but is opposed to the extra offices created under them. The question was thoroughly discussed, the general verdict being in favor of the present laws, but of a more thorough inspection of staple products.

Mrs. A. Avery will have a paper on the temperance question at our next meeting, June 4, at the home of Theodore A. King.

Jackson Co. C. J. REED, Cor. Sec.  
VASSAR FARMERS' CLUB.

The meeting at the home of Mr. and Mrs. Eno, April 17, was well attended. The discussion of the Association ques-

tion brought out some excellent points, among them the following: Parents should show their interest by visiting the schools more. Do not criticize the teacher before the children, but teach them to respect and obey. Children that are well governed at home make good pupils at school. Provide the school with maps, charts and all such helps as are practicable. Do not grade too low. Many have no opportunity for education save the district school, hence it should be such as to fit them for the ordinary duties of life. Select teachers with the best of principles, who will set a high standard before pupils and the people. Then will the district schools in the future, as in the past, build the foundations of many of the most noble characters in history.

It was unanimously decided that the new rate of box rent established by the P. O. department is a step backward and an injustice to the people of village and country. The club decided to hold meetings each month during the summer.

Tuscola Co. REPORTER.  
LIBERTY FARMERS' CLUB.

The May meeting was held at the beautiful home of Mr. and Mrs. J. S. Flint on the 7th inst. At the opening of the afternoon session all present joined in the singing of "America." R. D. M. Edwards opened the discussion on the Association topic. Said he believed the laws were good ones, and that the farmers were interested in their enforcement. The commissioner is extremely anxious to know if the farmers will support him in the enforcement of the law. We as farmers should stand by him. The adulteration extends not only to dairy products but to nearly all other products, even to the berry of coffee. Rev. J. H. Butler: As I understand it, the question is "Shall farmers stand by the enforcement of these laws?" It ought not to be necessary that he should ask to be upheld. Laws should be enforced or repealed. Mr. Hewitt: In Detroit the justices have thrown these cases out of court. I believe it is the duty of farmers to stand by the commissioner. Prof. Overholt: I think the key-note has been struck, and that this meeting should express itself in favor of standing by the officer in enforcing the law. On motion of A. W. Dunn it was expressed as the sense of this meeting that farmers should stand by the commissioner.

The following was officially presented and adopted: Whereas, the commissioner is endeavoring to enforce the pure food laws, and whereas, the farmers of the State of Michigan are greatly damaged by the adulteration of agricultural products, therefore, Be it resolved, that we, the members of the Liberty Farmers' Club, by this resolution offer our support in the enforcement of said law. W. E. Kennedy, president; Mrs. Ella Wetherby, secretary.

"The Farmer's Duty Regarding the Temperance Question" will be discussed at the June meeting.

MRS. J. D. CRISPELL, Reporter.  
JACKSON Co. BYRON FARMERS' CLUB.

May meeting was held at the residence of Mr. and Mrs. James Goff on the 12th inst. Our club is increasing in numbers and more interest is manifested each meeting. Aside from the general program a practical paper on "Poultry Raising" was read. The paper on "The Improvement of our Highways" by L. C. Kanouse, was postponed till the next meeting, owing to the absence of the author. The question box is an excellent feature of each meeting, many good subjects being brought up and discussed. Next meeting with Mr. and Mrs. R. K. Fox, June 10.

Shiawassee Co. JAMES GOFF, Sec.  
BLISSFIELD FARMERS' CLUB.

Club met at the home of C. L. Lathrop, May 11. "The Door Yard" was the general topic. The first question under it was "Which pays best, a well kept lawn, or pigs in the front yard?" A number of short talks were given, the ladies giving their attention to flowers and their places on the lawn. One gentleman thought it to be the wife's place to take care of the lawn, while the husband took care of the barnyard. Thought the doorway an index to the house, and the barnyard likewise an index to the barn. Another thought the husband and wife should work together to keep the doorway attractive. The talks having been devoted exclusively to the front yard, one member suggested that the back-yard be given some attention. He believed it, too, had much to do with the general appearance of the place. One of the young men read a paper expressing the belief that outside of our

farm houses a tidy lawn and bright flowers would be a help in keeping the young on the farm. It was not the work on the farm so much as the lack of pleasure surrounding both inside and outside of the home that was driving so many of our young to the cities and towns.

MRS. JOHN LETTER, Cor. Sec.  
Lenawee Co.

#### BURTON FARMERS' CLUB.

On May 5 we met at the home of Mr. and Mrs. Geo. Snyder. One question discussed was "Which is the most important, the primary or the high school?" It was decided by most members that though both were necessary, yet the primary was of first importance. Hon. F. M. Shepard spoke of the great interest taken in the schools. He said they were improving. He praised the idea of having flags floating over the schools as teaching loyalty to our country.

"Supposing the war continues, what will be the best crop for the farmers to raise?" Some said pork and beans. One old soldier said no pork, but plenty of beans and beef, corn and hay for horses, while the soldiers would raise their own chickens.

Mrs. C. R. Woodin introduced the general subject. She told about the properties and uses of water. Said the world as well as ourselves is composed of three-fourths water and one-fourth dirt, while vegetation is about four-fifths water.

On the subject, "Food and Dairy Laws," C. R. Woodin said the laws were made partly to protect the farmer and partly to make him honest. When the farmer makes an inferior article he helps to induce some one to offer an adulteration. When the merchant pays the same for the good as for the bad, there is no incentive to make the superior article. When the consumer demands something cheap, he gets it, without regard to quality. Butterine is all right if made and sold for what it is, but it should not be made to imitate butter and be sold as such. Worked over butter should be marked and sold as renovated butter, and not as fresh dairy or creamery.

Next meeting with Hon. F. M. Shepard, who will then tell us something of the workings of the legislature.

Shiawassee Co. C. R. W.

#### NORTH PLAINS FARMERS' CLUB.

At the regular May meeting a paper on "Dairy and Food Laws" was to have been read by L. H. Heydlauff, but owing to lack of time for preparation he substituted a talk on the same. A paper on "Orthography" by F. J. Barker was followed by five-minute discussions of the same by members of the club. "Young Men In Business" was treated in an excellent article by P. L. Charles.

Ionia Co. SECRETARY.

#### OAK GROVE FARMERS' CLUB.

Club was entertained May 19 by Mr. and Mrs. Wm. Strouch. The following officers were elected: President, Fred Kay; vice-president, Albert Strouch; secretary, Mrs. Wm. Cole; corresponding secretary, Miss Flora Parsons; treasurer, Mrs. Frank Strouch; director to County Association, Wm. Cole. Among the interesting features of the program was a paper by A. Wrigley on "Happiness," which was full of good thoughts. Mrs. Wrigley gave some good points on raising chickens. Thinks hens should have a good place in which to set, where they will not be disturbed by the other hens. Both chickens and mothers, shortly after hatching time, should have a little lard rubbed on top of their heads. First feed should be given when twenty-four hours old, and consist of the yolk of hard-boiled eggs. After that feed cooked Indian meal. After a few weeks old wheat is the best food. Should have plenty of clean, cold water, and be kept clean, warm and dry. If this is done you will reap your reward in silver dollars.

Next meeting with Mr. and Mrs. Wm. Cole, June 16th.

Shiawassee Co. SECRETARY.

#### GRAND BLANC FARMERS' CLUB.

Our farmers' club met May 13. L. H. Russell read a well-prepared paper on "The Ideal School." Hon. D. D. Aitken gave an excellent talk on "Characters of This Country." Said people are respected according to their wealth, and pay less taxes according to their wealth than the poorer classes do. The sentiment of the people is to acquire wealth, but this is to be outgrown and our young are to learn that it is more desirable to be a good farmer or a good farmer's wife than to be a dishonest president of a railroad or a standard oil company. We must try to make a success of what we do and not cultivate our ambitions beyond our

capabilities. He believes that all educational property, state, county and township property, should be exempt from taxation, and that all other property should be taxed according to its real value.

At our June meeting Geo. Meade will read a paper on "Life in Camp Eaton."

A. ROXANA KEYSER, Cor. Sec.

Genesee County.

#### BRIGHTON FARMERS' CLUB.

The Association question was opened by T. Hilton, others following and giving many different ideas. The adulteration of many of our food products results in cheapening the products of the farm, thus lessening the profits of the farmer and robbing both consumer and producer. H. Thompson thought there should be a law against the manufacture of oleomargarine in any form. Just so long as this is allowed, farmers will have to take low prices for their butter.

Next meeting at the home of Wm. Wilson, June 9th.

MRS. H. E. FOOTE, Cor. Sec.

Livingston Co.

#### SAND BEACH FARMERS' CLUB.

Club met June 4 at the home of Mr. and Mrs. T. A. Ramsey. Papers were read on "The Street Fair—What Is It?" and "Free Text Books," by J. J. Lesyceynski and D. E. Spencer, respectively. Our club keeps growing, about sixty being present at our last meeting. We next meet June 1, at the home of Mr. and Mrs. Hamlin.

Huron Co. WM. HARGREAVES, Cor. Sec.

#### EXETER FARMERS' CLUB.

Mr. and Mrs. J. J. Herkimer entertained the club May 12. A very pleasant afternoon was spent in discussing "Free Rural Mail Delivery" and "The Best Way to Plant Corn." H. H. Herkimer believed a time was coming when we could have free rural mail delivery and that we need it more than the people in the city. Others were in favor of the same. Next meeting at Chas. Loudon's, June 2.

Monroe Co. MRS. B. F. KNAGGS, Cor. Sec.

#### HAMLIN FARMERS' CLUB.

Club met at the home of the corresponding secretary April 27. The county superintendent of schools was present and gave a good talk on the Association question. One improvement suggested was for two or more districts to unite, thus making fewer and larger schools with better teachers. A paper was read by Miss Ruby Rogers on "Home Training of Children," also one by A. Long on "The Use and Abuse of Farm Tools," which ought to be printed and pasted in the majority of farmers' hats. He says there is more loss by decay and rust on many farms than by the natural wear from use.

Eaton Co. D. B. PIERCE, Cor. Sec.

#### SOUTH LEONI FARMERS' CLUB.

The May meeting was occupied with the question, "How shall we improve our schools?" A general sentiment was expressed in favor of a uniform system of text books in the State, and also a sentiment against limiting a third grade teacher to two years.

A paper on "Postal Savings Banks" by Wm. Mason was discussed, all being in favor of such banks being instituted. (This paper will appear in this department in a future issue.—Ed.)

MRS. A. E. CLEMENT, Sec.

#### UNION FARMERS' CLUB.

Mr. and Mrs. Keys entertained the club, May 7th. Aside from the general program Mr. Keys gave a talk on the care and management of apple trees, giving an illustration of the grafting of the same which was very interesting and instructive, and which brought forth a good many questions. "When, how and why we do the weekly washings?" was discussed by the ladies. Some thought we wash on Monday because our mothers did. Others thought Monday the most convenient day as more dirty clothes accumulate about that time of the week.

Messrs. Key, Woodbury, Crell and Pierce discussed the Association topic, "Food and Dairy Laws and the Farmers' Relation Thereto." Adjourned to meet with Mr. and Mrs. Geo. Lapham, June 4th.

Clinton Co. ERIC INGERSOLL, Cor. Sec.

#### SPRINGPORT FARMERS' CLUB.

Club held its last meeting May 14th at the home of Mr. and Mrs. John Landon. The Association question was turned to the butter question after a short discussion on the advisability of making protection against the adulteration of various kinds of food that are upon the market. It was thought expedient by some to form a standard as to body, flavor and color of butter for the purpose of grading it so the farmers could get a good price for a good article. The grocers of the place seem



to be anxious for such steps to be taken. A committee was appointed to take into consideration the propriety of grading butter.

A paper on "Business Sense in Farming," was given by Geo. Godfrey. It contained many good thoughts and much helpful advice. Our "Strawberry" meeting will be held June 18th at the home of Mr. and Mrs. O. H. Parker.

ADA WELLINGTON, Cor. Sec.  
Jackson Co.

#### MT. SALEM FARMERS' CLUB.

Last meeting held April 28th at the home of L. Powers. Potato and corn culture was discussed. For potatoes Mr. Powers would plow in fall and in spring cultivate soil one or more times, plant three feet apart, cover lightly, after they come up cultivate frequently, always just as soon as you can get on the ground after a rain. More or less room needed according to soil. Mr. Mason plows five inches deep, plants in drills, early varieties three feet two, and late three feet six, both 18 inches in the row, harrows after plants are up, cultivates frequently, the last time reversing wings. To help exterminate bugs mix flour or sulphur with seed before planting.

Andrew Nolan, after carefully preparing ground for corn, would plant by hand, applying equal parts of ashes and hen droppings to the hill after plants are well up. Keep soil loose by constant cultivation until too large for horse to go through. Daniel Foley had tried all methods of planting but likes drilling best. Gives better yield with less cultivation and no marking.

"On 'Flower cultivation' Miss Alice McKenzie said more depended on the person than the flower. Pansy should be planted in a shady place not on too rich soil. Dahlia is a native of Mexico; thrives best on a sandy soil. Rich soil produces straggling flowers. Should be planted four feet apart, ground kept clean with proper care. Should not be taken out of ground for two weeks after top branches have withered. Bulbs should be packed in sand and kept in a cool, dry place.

"The vegetable garden" was discussed by Mrs. Justin Cope. First essential is good seeds, next properly prepared ground, seeds planted in drills or beds; as soon as plants appear begin at once with hoe, weeder or cultivator.

MRS. MAURICE FOLEY, Cor. Sec.  
St. Clair Co.

#### THE FARMERS' DUTY TO THE TEMPERANCE CAUSE.

(Mrs. E. L. Lockwood, Vice-Pres. Michigan State Association of Farmers' Clubs.)

The great moral struggle of the first quarter of the twentieth century will be over the temperance question. Already the forces are arranging themselves. On the one hand are the brewers, distillers and saloonkeepers (mostly foreigners) and the rough, turbulent element to be found in every village and city, with some recruits from our farming population, these also largely of foreign birth. On the other the sober, thinking part of our population, represented largely by the churches, the temperance organizations and the various religious and philanthropic societies scattered over the land. The one force is a unit—first, last and all the time—for the saloon and the rule of the rum power. The other, while agreeing in the main, are divided as to methods, some standing for moral suasion, some for legal suasion, while others hold that we can tax the traffic out of existence. Between the two and hardly knowing where they stand on this question is a large class of honest, hard working citizens who have given the subject little thought, content to attend to their own affairs, vote the party ticket and let the politicians attend to the rest. And right here is where the trouble comes in.

The liquor element holds the balance of power. None better than the politician knows this. And he knows, too, that the honest hard working element that forms the main body of his constituency is largely ignorant of the liquor laws upon our statute books. Therefore he can safely pander to the one and deceive the other. I wish that each year one monthly meeting of the Farmers' Clubs in the State might be devoted to the reading and discussion of "A Digest of the Liquor Laws of Michigan." It would open the eyes of our people to the shameful manner in which these laws are violated and that too, by the class who are seeking to ruin our boys and young men; thus not only bringing sorrow and desolation to the home, but sapping the very foundations upon which our govern-

ment rests. Certainly the laws restricting the sale and use of intoxicating liquors are all too weak and insufficient, but such as they are we should demand their enforcement, never relaxing our efforts to obtain those which are better. Doubtless coming generations will discuss with feelings of horror the time when, for revenue, a so-called Christian government permitted the sale of that which should ruin and debauch its citizens.

One month ago the 300 Farmers' Clubs of Michigan discussed with enthusiasm the question—The Rural School System. How Can it be Improved? Perhaps no subject has awakened such universal interest, and this is as it should be. But the liquor element has its eye upon the school too. Not long since, in its official organ, "The Wine and Spirit Gazette," appeared an article under the heading, "Advice to Saloonkeepers," which contained this diabolical suggestion, "The success of your business depends upon the creation of appetite. Get your place of business as close as possible to a schoolhouse. Make friends with the boys, give them little treats, lumps of sugar with beer poured on. It will not cost you much and they will soon learn to like it; then they will be your customers. Above everything create appetite."

The country has not yet recovered from the thrill of horror which passed over it when the wires flashed the news that two hundred and fifty of our boys were hurled into eternity in a moment. A nation was ready to spring to arms to avenge them with "Remember the Maine" for their battle cry. But who avenges the more than two hundred and fifty men daily slaughtered by the rum power? Are we saying, "This thing has always been, therefore it must always be?" So it was said in slavery times, but who now defends chattel slavery.

Men and women of the Farmers' Clubs, what is your duty regarding this matter?

#### HOW MAY THE FARMER OBLIGE THE MILLER TO TAKE ONLY THE TOLL THE LAW ALLOWS?

The wording of this question implies that there is a law governing the amount of toll a miller may take in doing custom grinding, and also that millers are in the habit of taking more than the legal amount. I believe there is quite a general impression among farmers that they are being systematically robbed whenever they take grain to mill to be ground. How much of this feeling comes from positive evidence in possession of the farmer that the evil exists, and how much comes from tradition handed down from father to son, I am not prepared to say, but before taking steps to correct an evil we must first know that an evil exists.

To prevent the miller from taking more toll than the law allows, we must know how much the law allows, and then we must know how much the miller takes. Upon investigation I find the first to be: For grinding and bolting wheat, rye and other grain, one-tenth; for grinding and not bolting wheat, rye and other grain, except Indian corn, one-twelfth; for grinding Indian corn, one-tenth. Now the practice of the miller may be found by weighing the grain before taking to the mill and again after taking from the mill; the difference will show the amount the mill absorbed. If this be in excess of the amount allowed by law we can interview the miller on the subject with the courage of positive knowledge to back what we say; and if in future transactions he takes only what the law permits our object is accomplished. But if we find that he still persists in taking illegal toll, we have the alternative of recourse to the law to punish him for his misdemeanor, and compel fair dealing in the future, or we can grind at some other mill.

In the first place we would doubtless find ourselves involved in costly litigation, and be confronted with man's prerogative to manage his business according to his own judgment, with the possibility, if not a strong probability, of final defeat.

The fact is, law or no law, when a man goes into business, whether it be milling or something else, his charges are more apt to be governed by the expense he is under in running his business than by any law that may be enacted by legislatures. This is natural, and I am inclined to think just, for if we take the milling business for an

example, how can a legislature composed of men unfamiliar with the cost and expense necessary to fully equip and run a mill with modern machinery, tell how much toll to allow the miller to take without doing an injustice to the miller or the farmer? In an early day when grist mills were few and widely separated it may have been necessary for the legislatures to enact laws to prevent the natural greed of man from making exorbitant charges on those that were wholly at his mercy. But in this day when competition in every line of business is red hot it is not necessary that the law should define the amount of toll a miller may take. We can safely leave that to competition, which is only another word for supply and demand.

But right here arrives the danger point, which lies in the ability of the millers to combine and put prices above that at which they can well afford to grind. Such a combination would be a trust, and it is against such combinations that legislatures and Congress should direct their energies. Competition, or the law of supply and demand, is a safe equalizer of all conditions if allowed to run its natural course. But when by the formation of trusts and combines it is turned from its legitimate function, it becomes the chief instrument of oppression and hard times.

Then if I were to give an answer to the question under consideration I should say: Elect men to the legislatures and to Congress who will suppress trusts, and when this is accomplished we will not only compel millers to take but their just dues, but all men to render unto Caesar the things that are Caesar's.

R. H. TENNY,  
Long Lake Farmers' Club.

Genesee Co.

#### Veterinary Department.

CONDUCTED BY DR. W. C. FAIR.

Advice through this department is free to our subscribers. Each communication should state history and synopsis of the case fully; also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice, and a fee of one dollar must accompany the letter.

Ringbone.—Four-year-old horse has a hard bunch on pastern. It causes lameness. I have not doctored him very much. Used vinegar and wormwood but it did no good. A. J., Midland, Mich.—Blister him with caustic balsam once a week. Give him rest.

Eczema.—My dog has some skin disease. The skin is red and inflamed. He is inclined to scratch himself. W. A., Adrian, Mich.—Apply one part oxide zinc to four parts lard once a day for a few days. Wash him with tar soap and water.

Bog Spavin.—Tell me of a cure for a horse that has bog spavin. It is a bunch about the size of a hen egg. The horse is lame for a few steps when he first starts.—J. P. H., Okemos, Mich.—Blister with caustic balsam once every ten days and he will get well.

Umbilical Hernia.—I have a sow pig six weeks old with a bunch under her belly about the size of a hen egg. I noticed it two weeks ago. Pig is growing nicely and feels well. W. W., Ashland, Mich.—Your pig suffers from umbilical hernia. A surgical operation is necessary to insure a speedy recovery. However, she may outgrow it and get well without treatment.

Blood Disease.—A colt, four days after it was born, began to break out in running sores. The first ones were on or near the joints. Doctored it and sores are getting better but hair is coming off from breast and legs, and keeps swelling and breaking out in new places. Colt is smart, eats well and mare is in fine condition. J. A. McJ., Maybee, Mich.—Your colt has some blood trouble and the breaking out is due to nature making an effort to eliminate those impurities from body. Give two grains iodide potash three times a day and apply boracic acid to sores twice a day.

Warts on Udder of Cow.—What shall I do to cure the large white warts that look like blisters on my cow's teats? She is dry now and will come in July 12th. These warts made her almost unmanageable last summer and fall. They were so sore she would not stand to be milked unless tied up. These warts came on her teats three or four years ago. I used lard on them last fall and winter. It helped them but I think it dried her milk up. G. E. T., Manton, Mich.—Remove with a pair of scissors those warts that have well defined necks. The flat ones that

spread over skin are best treated by an application of chromic acid, one part to three parts water. Do not hesitate to cut them off, and use the medicine as often as necessary.

Mammitis.—I have a six-year-old Guernsey cow that has been giving milk since last fall. Had good care through the winter and was apparently in good condition; was giving about twenty-eight pounds of milk per day. About ten days ago, when beginning to milk, the stream from one teat would spatter—seemed to be a scab over end of teat. After rubbing this off milk would flow as usual. This continued about a week. Then within twelve hours that quarter of udder was badly swollen and caked, the flow of milk had dried up, appetite gone, and she seemed to be sore or stiff in hind quarters. The udder shows no signs whatever of external injury. Several years ago I had a cow taken the same way, only in her case the whole udder was affected. She recovered, but was useless for milking.—W. V. N., Edwardsburg, Mich.—Give Epsom salts to open bowels; feed grass but no grain. Foment udder with hot water three times a day, half an hour each time, and apply extract witch-hazel, tincture arnica and water, equal parts, three times a day. After the fomentations use a milking tube.



#### "Is She Your Daughter?"

Have you a young girl just at the age when young girls most need a mother's loving care? Is she physically strong and well or does she suffer from any weakness of the delicate organism which most intimately concerns her womanhood?

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#### How to Buy Silverware—

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## Miscellaneous.

### THE LOVER'S QUEST.

BY ERNEST GLANVILLE.

Author of "The Lost Heiress," "The Fossicker,"  
"A Fair Colonist," "The Golden Rock," etc.

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(Continued.)

"Your countrymen trade far and wide in Africa," he said.

"I am not one of those, my lord. The people are very savage."

"Yet Stoffel is one of those who travel far."

"If my lord says it. But he is one who says little, and Allah forbid that I should seek to ask him of his designs."

"Well, he is now bound for the Zambesi, where he will sell his guns to the slave-dealers."

The Arab started, and a suspicious gleam struck from his black eye.

"Hush, my lord. It is not well for one like me to know Stoffel, for he has been always set against my countrymen who traffic in slaves, and they are jealous of such interference. My lord is surely mistaken."

"Perhaps so, and I am glad to have information of the men who have the trade in their hands, as I am seeking a larger market. I have heard of one Sterndale who is a great dealer."

The Arab stroked his beard.

"My lord is not here on pleasure, then; for such is esteemed the hunting of the lion at much danger."

"No," said Miles. "I am a trader."

"It is well. Among traders there should be no secrets. It was mentioned to me by Stoffel that Sterndale was a great trader, but he lamented that he was dead."

"Dead! And his daughter?"

"There was no talk of a girl. Men do not take their children into danger, even white men."

"Where and how did he die?" said Miles, with an effort at composure.

"Those who deal in guns often perish thereby," was the significant reply. "Moreover, I understood he was a man dark in his ways, and his death was not lamented."

"It cannot be the same, then," muttered Miles.

"My lord spoke? Perhaps you knew this man? But if he is dead, he is dead, and there are many others who would like to do business. Maybe in the morning there will be some here who are in the trade; but, for me, I am a man of peace."

In his room that night Miles thought over the events of the day, and, as he thought, his suspicions slowly gained ground, until he became convinced that there was collusion between the trader and the man named Stoffel, and, therefore, that he had every reason to mistrust the news about Sterndale. Stoffel, it was plain, was anxious that he should not meet Sterndale, and had evidently taught Abdol what part he was to play. Having satisfied himself on the point, he took his boots off, blew out the candle, slipped into the garden, and went round the house to make sure of its bearings. The whole place was wrapped in darkness, but presently he saw a glimmer of light on his left, and moving in the direction, soon made out a number of white-robed figures squatting about a fire under a bamboo shed. The light shone on fierce bronzed faces, and on the barrels of rifles ranged against the wall. Turning back, he went on from grove to grove of banana plants till he was brought up by a very high bamboo palisade, and continuing along, nearly walked against a sentinel standing with his face to the house; beyond him was the gleam of another white-robed figure.

Venning returned to his room and sat for a long time with his rifle across his knee.

It seemed very much as if he had been trapped!

#### CHAPTER III.

The night, however, passed without alarm, and in the morning, when Venning stepped out on to the verandah, there was such an air of quiet about the place that he wondered whether he had not been mistaken about the sentries, and the band of armed men in the shed. Plucking a ripe fig and peeling the purple skin, he walked slowly down the garden to the palisade. There were no sentries there, at any rate; only a colored child playing outside the gate, and on returning to the house there was no one more formidable than a grinning slave boy who bowed him

in to a breakfast of hot coffee, fried bananas, sweet bread, and piles of fruit.

Abdol did not reappear until after breakfast, when he entered with an inkhorn and paper. In the daylight the Arab looked very little like a trader.

"I trust my lord did not suffer from going without his boots last night," he said, gravely, stroking his black beard.

"So you knew I went out!" said Miles, laughing, to cover his confusion.

"Is it not the duty of the host to see that no evil befalls his guest? It was your pleasure last night to speak of business."

Miles looked keenly at the tall Arab, whose features gained in sternness not at all in keeping with his attitude of humility.

"What business?"

"It was concerning the sale of arms; and I said there were men coming who were of that trade. No doubt my lord saw them in the night."

So, thought Miles, that accounted for the presence of those armed ruffians. But even so, what of the sentries?

Abdol clapped his hands, and at the signal twelve men filed in at the door and silently ranged themselves on either hand. Each man carried a straight sword, and Miles involuntarily looked round for his rifle. It stood where he had placed it in the corner of the bedroom, the door of which Abdol closed as he posted himself between it and his guest.

"Order these men out," said Miles, looking sternly along the double line of faces. The look was returned by one at once bold and menacing.

"My lord spoke the word," said Abdol, suavely, "and they are here to buy."

"I don't do business under a show of force," said Miles, with an uncomfortable feeling that he was in for a bad half hour.

"It is this, sir," said Abdol, growing more gentle. "These are men of the sword, and it is of their nature to be bold, but they are also of their word, and have ivory. They will barter their ivory against rifles of best breech make, with the filling ammunition, in all two hundred rifles, and hundred thousand of the ammunition."

"But I have no rifles here," said Miles, impatiently.

"That was foreseen," said Abdol, "and what it is requested of my lord to do is to send authority to your house to dispatch the guns."

Venning smiled.

"Business of this character cannot be done in that way. Tell them I am pleased at their order but must first make inquiries of the consul here, and in case his consent is given, the ivory must be produced and valued."

"That cannot be."

"Then the business is at an end."

"Not so," said Abdol, gravely. "It is our wish that you sign this," and he placed on the table before Miles, a telegraph form already filled in to Lorimer & Co., Birmingham, for the immediate supply (against cash) of the arms mentioned, to Abdol, merchant, Zanzibar, and only waiting signature.

"This is for the office, and the money for the payment is by us to be supplied."

"And do you really expect me to sign this?" said Miles, in amazement.

For answer the two men nearest him drew their swords. Miles looked at each man in succession, and saw it was no joke they were playing. Every man was in dead earnest. He turned and glanced at Abdol, to find that person with his arms folded, and a menacing look in his eyes.

"There is a pen," said Abdol, "and," with a nod of his head at one of the men, "there is a sword. You can choose."

"And if I sign?"

"Then we would wish to deal with you as a friend."

Miles looked fixedly at the Arab, while his thoughts worked rapidly. If he signed the message, and it were wired, he could stop the order by a second cable as soon as he were free. But that was such an obvious way out of the difficulty that he was sure it must have occurred to the scheming brain which had prepared the trap for him, and the counter move determined on.

He slowly took the paper from the table, and tore it in half. The nearest swordsman passed his blade under the torn half, tossed it up, and with a turn of his wrist severed the paper in half.

"We are not trifling," said Abdol grimly, "and by Allah, we will have your hand off and sign with it."

"You would gain nothing by that, if you meant it," said Miles, coolly.

"Mean it!" said Abdol, and gave a command in Arabic.

Immediately three men pounced upon Venning, and one of them pulled his arm across the table, while a fourth laid the edge of his blade upon the bared wrist, then slowly raised it.

Miles set his teeth and looked fixedly at the man who held the threatening blade, while a score of black eyes were centered fiercely upon him, to detect any sign of relenting.

"Will you do our will?" said Abdol.

There was no answer, and the Arab swordsman struck. Miles saw the bright flash, and a shudder passed through his frame, for at the same moment he felt a burning stroke against his wrist. Slowly his eyes went to the table with horror in them, at the thought of a lopped-off hand, and then his glance went sharply to the men. The swordsman had stopped his blade in its swift descent and severed only the skin, making a red gash. The men showed their teeth in a grin, and Abdol laid his hand upon Miles' shoulder.

"Come," he said, suavely, "you are a brave man, but you are in our power. We have gone too far to let you escape, but if you do as we wish no harm will befall you, and you will also receive good payment."

"How can I trust you?"

"I will swear by Allah."

The pen was placed in his hand, and another telegram form produced, while the men eagerly clustered round.

"Before I sign," said Miles, "you must tell me if Sterndale is really dead."

The Arab stroked his beard.

"I will tell you all I know concerning this man, and that was this: that Stoffel assured me he was dead."

"Why did Stoffel tell you that? Was it only that you should tell me?"

"It is so."

"Then Stoffel perhaps lied to you?"

The Arab shrugged his shoulders, and Miles rapidly filled in the form.

Abdol clapped his hands, and a young man entered in a state of great nervousness.

"My lord here is a message for the office. If inquiries are made concerning it you will remember that you received it from his own hand, and should a reply come from England you will bring it to me."

The messenger salaamed, and with trembling fingers received the paper, taking also the money in payment from the Arab, with something over for himself.

Abdol again clapped his hands and food was brought in on a leather tray in tiny dishes, each of which was under its prettily made cover of plaited grass. The Arabs then solemnly broke food with their guest, or prisoner.

"And now?" said Miles.

"You are my guest," said Abdol, without a smile, "and I will invite you to come with me this night on a journey into the country. Till then the house and ground and the slaves are yours."

Miles could not help smiling, so dignified and courteous were the terms of his imprisonment defined, but he quickly noticed this, however peaceable the Arabs themselves were disposed to be, within limits, they were not prepared to trust him with a weapon, for they removed his rifle and ammunition, and wherever he moved a couple of stalwart men kept pleasantly near. He had been quick to notice that he had now the respect of the men, and he was determined to sacrifice no advantage he had gained, so he assumed an appearance of complete indifference, and passed the day on the verandah smoking or reading.

In the evening he submitted to be covered with a long cotton garment, and later on took his place between two men, and set forth disguised in the darkness like an Arab.

Once free of the ground, his thoughts turned to the chance to escape; but his guards were prepared, and the flash of a sword on either side warned him. Moreover, as on the previous night, there were men posted at intervals, and he postponed the attempt, while taking, as far as he could, his bearings of the route followed, from the stars.

Once the mainland was reached, his two guards were joined by a large body of men, armed and mounted. A pony was led forth for him, and on the troop proceeding he was again closely guarded.

The night was black, and Venning in vain tried to make out the lay of the land; all he could see was the ghostly gleam of white garments ahead. For several miles they went,

with the land breeze blowing straight into their faces, and then he noticed from the stars that the course bent south-west, as near as he could gather. This line was followed until the small hours before the dawn, when the troop came to a halt in a grove of trees. The men dismounted, the horses were tethered, fires were lit, and in a few minutes all were sound asleep with the exception of two or three men standing guard, one of whom held the loose end of a rope fastened about Miles' waist in such a way that he could not loosen it without warning the guard.

Drawing his cotton robe about his shoulders he reconciled himself to his position, and stretched himself on the ground, one of the guards silently placing the saddle beneath his head as a pillow. Very soon he was asleep, to awake only at the cry of the watches at daybreak, bidding the true believers to their prayers. "La ilaha illa Allah" was the cry repeated by each man in the gray of the morning, with their faces to the sun, and Miles sitting up suddenly stared as one mystified, for the strange scene to his awakening mind seemed the figment of a dream, and the scattered white figures the spirits thereof.

"Salam a lekum," said the same man who had given him the saddle for a pillow.

"And with you also," said Miles suddenly remembering where he was by this courteous phrase of Arab greeting.

The other men greeted him as they came back from their devotions, all but an evil-looking ruffian, whose nose looked as if it had been broken in a fight, and who spat towards him.

The band moved on further into the palms to a small hollow surrounded by bush, and here preparations were made to spend the day. Fires were lit, and food prepared and protected from the evil eye by layers of plaited straw, and the men in groups about each dish helped themselves to mutton and rice balls with their fingers. Then water was poured on their hands from a pitcher of leather, and the long meal was further lengthened by coffee drinking. After this the men dressed each other's hair, using an ivory rod with which they made a topknot and drew the side-locks in links over their ears, finishing up by rubbing in mutton fat, and sprinkling mineral powders, red or yellow, over all. This carried them well on to noon, when two or three smoked bhang, and the rest talked volubly over the evil spirits that haunted the bush.

Miles lent himself to their humor with the policy of an experienced traveler; fed, without the slightest sign of disgust, from the same dish, drank the colored sherbet with apparent relish, inspected a hair-dressing with interest, and even took a whiff of bhang, which made him cough violently.

In the afternoon one of the kaif drinkers, the same who had shown his fanaticism, now grown hideous because of the red color which had been imparted to his looks, and because of the vacant expression caused by the drug, staggered towards Miles, whom he roundly cursed. As his rage worked on his sodden faculties he shot his fingers in the white man's face, and then laid hands upon him, whereupon he was promptly grappled by the infidel.

There was a murmur at this from the other men, and the fallen ruffian, getting to his feet, tore his robe from him in a fury, and drawing his straight sword from its leathern sheath, made a rush at his unarmed opponent. It would have gone hard with Miles, but just as the raving fanatic had raised his sword, there rang out the sharp report of a rifle, and the heavy weapon clattered to the ground, while the man dropped his sword arm and glared like a wild beast at the marksman, who stood on the edge of the wood, with the smoke still curling from his rifle.

"Sons of Sheitan," said this man in a harsh voice, "is this how you obey my commands?" Then, as he strode forward, with his dark eye ranging from man to man, Miles recognized in him the merchant Abdol.

"Salem, Efendine," he said to Miles: "I came at the right moment." Then passing on among the men, he lashed them with his tongue, next seizing a bamboo stick he belabored the offender, though the blood was dripping from the bullet hole in his arm, till the man dropped insensible.

Miles shuddered at the sight, and for the first time realized the danger of his position.

CHAPTER IV.

On the third day the band, still continuing southwest, reached the dry bed of a river, and following it up for a few miles entered a wooded ravine.



out of which they turned though a mere cleft in a precipitous wall into a natural amphitheatre completely surrounded by lofty walls, the summit of which was lined with bush. Here there were a number of grass huts around a pool of water, while about several caves at the foot of the wall were men and women squatting about fires, or engaged in the everlasting amusement of hair-dressing.

A barricade of bamboo poles was drawn across the inner entrance. The ponies were released to graze on the rank grass, and the men dispersed among the caves and bushes.

The Arab leader, who had kept himself aloof, approached Miles as the latter was taking stock of this natural stronghold.

"Is this to be my prison?" said Miles.

"Prison! What word is that? We do not treat prisoners as we have treated you."

"Do not let us haggle about words," replied Miles, bitterly. "You have brought me here. Why?"

"This is a good place from which to hunt, and you English are fond of the chase. While we wait for the coming of the guns we could well pass the time in the country around, and, moreover, the ivory of which I spoke is stored here."

Venning felt that he knew the worst. "Am I," he said, "to be detained here until the guns arrive, if they ever do?"

"They must arrive," said the Arab, with a fierce look. "If not—well, you saw the temper of my men, and another time perhaps I could not save you from the sword. But come, you have done your part; and I have pledged your safety until the contract is finished."

The Arab paused to let the threat sink home, but Venning met his gaze fearlessly, though he knew his partner would never attend to such an order as he had signed.

"I have told the men," continued Abdol, "that I will wait six weeks. Reflect now. Would you care to send another message? If so, it will be safely dispatched."

"Six weeks," thought Miles. "In that time I can surely escape."

"No," he said aloud. "I have nothing to add."

"Remember, then," said the Arab, solemnly. "I give you warning. Now, I will show you such a store of ivory as would purchase arms for an army, and it may be yours if you serve us well."

The Arab led the way to a large cavern, and, preceded by a man with a torch, entered to an inner chamber, around which were piled on the dry sand hundreds of tusks, all arranged according to quality. The light from the torch fell on the smooth, gleaming points, so that the vast cave seemed to be alight.

"There is wealth," said the Arab, proudly. "There are here teeth from one thousand elephants."

"A thousand! And did your hand shoot them?"

"Mash Allah! Shoot them—no! But they gathered them from the lakes beyond—from a hundred tribes."

"It must have given you great labor to have brought such a store together from distances so far."

"Ours was not the labor," said the sheik, darkly. "I have heard white men talk of black ivory. The black ivory carried the white, and so the labor paid for itself."

Miles drew a long breath. It was, then, as he had feared. He was in the power of ruthless slave-raiders, and as he looked, the pile of ivory from the red flame took on a hue as though it had been stained by the blood of thousands of driven men and women.

"Yes," said Abdol, "this is wealth. There is no bad ivory here; none. It is all of the three qualities, damai, packed here in the center, each tusk longer than a tall man; brinji-ahl ivory of the purest packed next, and dahar-brinji, nearest the door, being good but small in size. I will give you from each heap in payment; and, as I have said, if the order is well fulfilled there remains the rest to barter against guns, big and small, for an army."

"You will get no guns from me," muttered Miles. Then aloud, "For what purpose do you require so many weapons? Is it for trade?"

"Trade!" said the Arab, fiercely, and his hand went to his sword hilt. "Trade! No, for war!"

"Against?"

"Against the cursed! Against our enemies," was the reply, accompanied by a glance full of suspicion. "Enough. You have seen what no white man has ever looked upon, and unless you deal

fairly, the secret you will never take away."

Snatching the torch from the bearer's hand, he quenched the flame on the sand, as if he regretted he had shown so much, and, guided only by the cold glitter of the ivory, they found the exit into the outer cave, passing thence into the enclosed valley, where a hut was apportioned for Miles, and a slave to wait on him.

(To be continued.)

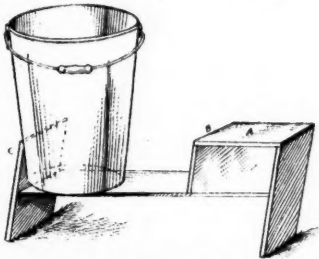
## The Dairy.

We have a complete Dairy and Farm Creamery in constant operation on the Experiment Farm at Climax, Mich. This is personally conducted by J. H. Brown. All dairy correspondence should be sent to Climax, Mich.

### THE EDITOR'S DAIRY NOTES.

#### A CONVENIENT MILKING STOOL.

The cut shows the stool we use in our cow stable. It is the most convenient, most comfortable "resting place" we ever found when going through the process of extracting lacteal fluid from the bovine's udder.



With this stool we can quickly "adjust matters" for milking any kind of a decent cow that gives milk. Some farmers think a one-legged stool better to use when milking "kickers," but we don't keep such cows.

In milking one kicker, that was purchased from a stranger several years ago, we found our stool very convenient to use in sitting down beside and quickly getting away from the animal. In fact, we can handle this stool as quickly and easily as the one-legged variety.

When ready to sit down to milk we take the pail in the left hand, and the stool in the right, grasping the stool by the front end of the seat, marked B. The seat A may be cushioned on top, like one we saw at the Kalamazoo asylum cow stables last week.

The flange or projection C supports the pail in position, at the angle required, while the knees prevent any side "spills." While using this stool we can sit down comfortably, and there is no necessity for using both legs and knees as braces in order to prevent a catastrophe.

#### FROM DRY FEED TO GRASS.

Many dairymen are now milking cows that derive all their food substance from grass alone. Some cows were changed suddenly from dry feed, and seem, so far, to have increased their flow of milk.

It seems as though one season's experience would convince any dairyman that the change should be gradual. The result of a sudden change may not be seen early in the season, but it will, as a rule, result in a greatly diminished flow later on, unless supplemented by more or less grain in the form of bran or the lighter grains.

We tried the sudden change from dry feed to grass alone, during the first spring of our venture into the dairy business. The cows increased in their milk flow and we seemed to secure more butter. But after two or three weeks there was a decided falling off in the milk flow, and we were forced to feed some grain during the whole of the summer to prevent the cows from drying up.

Since that time we have practiced giving the cows one feed of hay, once each day, for about four or five weeks after turning out to grass. They will eat a small amount with more or less avidity, especially during the middle of the day, or at night.

We are sure it will pay any dairyman to follow this plan of a gradual change, even if some hay must be purchased. The early grass contains very little of the digestible nutrients, and is mostly water.

#### OATS AND FIELD PEAS.

The first thing we did, to prepare for a possible emergency, was to drill in a patch of oats and Canadian field peas. If these are needed they will be ready about the last of June.

We sowed the oats and peas on the same patch that contained the

Stowell's Evergreen sweet corn last season. The peas were sowed broadcast on the surface and plowed under.

#### PREPARE FOR DRY WEATHER.

No one knows what the season will be, so far as precipitation is concerned. It now looks as though we might have a "dry time of it," from the fact that it is already dry throughout this whole section.

#### PUTTING IN THE SEED.

After fitting the ground, the oats were drilled in a few days later. The peas were plowed under to the depth of five inches, at the rate of one and one-half bushels per acre. About one and one-quarter bushels of oats per acre were sown.

Both oats and peas are looking finely now, though it is very dry. A good soaking rain is greatly needed. This is the second season we have grown oats and field peas in a combination crop.

If needed, we shall use the crop, when partially matured, for feeding both cattle and swine. That portion not needed may be cut and cured for hay, or harvested and threshed for the grain.

#### HOME CHEESE-MAKING.—II.

Without the best of conveniences, and a previous contract, in a small dairy, butter-making in July and August is neither satisfactory nor remunerative. The price in country towns is low, city markets are inaccessible, and little or no call for more than enough to meet the local demand.

In many cases yearly contracts with customers cannot be made, as dearth succeeds surplus unless arrangements are made for both summer and winter dairy. Butter packed and stored under the conditions existing in the average farmhouse commands only a slight advance on summer prices.

The thought occurred to the writer if there could not be started a new industry on the part of farmers' wives, which would be less laborious and more remunerative. Why not use the milk during the heated term to make Gouda cheese. It is quickly and easily made and cared for, is light to handle, and could be put upon the market for returns in the fall as early as packed butter. Its size would commend it for family use. The quality is superior to factory made.

Could we not commence in a small way; make a few, introduce them to our butter customers, and local groceries, and in time work up an industry

that would be advantageous and creditable? Will Mr. Brown tell us what he thinks of the suggestion?

A word about cheese mites, which in some localities are very troublesome, infesting cheese which is cut or exposed. If unchecked, the cheese rapidly deteriorates, and a powdery substance results, which is unfit for food. Mites sometimes burrow into cheese that has not been cut.

Wrapping in a cloth wrung from vinegar and water, often renewed, is a preventive. Mites cannot reach cheese put in cheese cloth, and buried in pulverized charcoal.

With liquid rennet and small perforated tin molds, dainty and delicious cream cheese can be made. Into three teacupfuls of new milk put a pint of sweet, thick cream; add a scant half-teaspoonful of liquid rennet.

With an egg, whip rapidly, whip the mixture three minutes, and let stand three hours to become clotted and firm. Turn on cheese cloth over a sieve; let drain, and hang in a cool place twelve hours. Line little cups or a tin mold with thin buttered muslin, season the curd with salt, fill cups or mold, put on a weight for an hour, and it will be ready to serve.

To every three pints, half milk and half cream, add four drops of liquid rennet; beat to a froth with an egg beater, and let stand twelve hours. Drain, tie in cheese cloth, and let hang to drip another twelve hours; then press cloth and contents into a mold. In two hours take out, rub top and bottom with salt, set on a board in a cool, airy place for two or three days, turning and sprinkling once in twenty-four hours.

The amount of rennet must be varied with its strength. A little experience will enable one to get the proper quantity. These little cheeses are quite in style for 5 o'clock teas.

Ohio. SARAH E. WILCOX.  
(For those dairymen who have no regular customers, who cannot conveniently sell their cream during the summer season, and especially those who live some distance from a good market, we don't see why the small cheese venture could not be made fairly remunerative. For us it would not pay, because we furnish our butter on contract the whole year round. But as we never made any cheese, we really do not know whether we could utilize our present storage room for making and curing cheese.)

Let us hear from others who have tried Mrs. Wilcox's plan.—Ed.)



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DETROIT, SATURDAY, MAY 28, 1898.

This paper is entered at the Detroit Postoffice as second class matter.

Cold weather has held back corn planting in some sections of the State. In the eastern portion rains have been frequent, and not warm ones. The early season hoped for has not materialized. We had May in April, and now we are having April in May.

For the week ending May 4 there arrived in London, Liverpool and Bristol 8,717 cattle from foreign countries, about 50 per cent of which came from the United States; 20,728 sheep, only about 4 per cent of which came from the States; 11,181 quarters of beef, all of which came from the States. There also arrived 101,470 carcasses of frozen mutton, all from New Zealand, one steamer carrying 88,544 carcasses.

The exports of wheat and flour, the latter reckoned as wheat, since the beginning of the crop year, have been 193,000,000 bushels. This is more than was ever before exported in a whole year, except in 1891-2, when shipments reached a total of 225,000,000 bushels. It is probable the exports the present crop year will considerably exceed 200,000,000 bushels. When the higher prices received for the crop are taken into consideration it is probable the wheat crop of 1897-8 has been worth more to the farmer than any other ever grown.

A dispatch from the American consul at Havre the past week states that the French chamber of deputies has passed an act largely increasing import duties on pigs, fresh and salt hog meat and hog products. The bill, which only wants the President's signature, contains a clause authorizing the government to concede temporarily the minimum tariff rates on lard and other products to countries which do not enjoy the most favored nation privileges. The consul says that this was intended to strengthen the relations between France and the United States, as it permits the President to make a decree at any time admitting these products from the United States to favored nation treatment and minimum duties. If so, it is a sign that the French government is coming to the conclusion that Americans are not likely to stand any more nonsense from its people, and are attempting to do something in the way of propitiation for the gross abuse and studied insults to which they have been subjected by the French press and a large part of the French people.

## THE OUTLOOK FOR WHEAT.

The strength of the wheat market has astonished even those who have had faith in its future. Cash wheat holds close to the \$1.50 mark in this market, and we should not be surprised if this range should be held until the new crop from the southern and southwestern states begins to make its appearance. We know it is the opinion of many that the opportune breaking out of the war has been the great factor in supporting values of breadstuffs. No doubt this is true to some extent; but the war is not alone responsible for the present situation. At the bottom of the whole matter is the low production of wheat-raising countries the past year, arising from two distinct and separate causes: Poor average yields, and the decreased acreage put into this crop as the result of extremely low values for several years. So accustomed had we become to seeing wheat sell at about the cost of production, that the advances of last fall were looked upon as merely the doings of a speculative clique with abundant financial means to hold up values when once they determined to do so. Looking over the situation now, it appears that Mr. Leiter and his friends, assured of a large shortage in the world's supply of wheat, merely started an advance that was sure to materialize before the expiration of the crop year. They foresaw an opportunity to secure great profits before the true situation would be understood by others. Reasoning from this standpoint it becomes apparent at once that Mr. Leiter's confidence in the future of wheat was not the result of mere assumption, but based upon established facts.

Not in years have the nations of Europe and Great Britain been so short of wheat as at present. They are practically without reserves. France, Spain and Italy, owing to this fact, have been compelled to take on all duties upon foreign wheat so that their people can have bread. Germany, Belgium and Austria are also very short of supplies. It is absolutely necessary that they be procured, and it is the endeavor to procure them which keeps American markets up to their high range. British authorities state that not in years have stocks of wheat been so low in that country as at present. That is the situation in Europe and Great Britain.

In the United States, which has been the principal resource of those who have required breadstuffs during the past winter and spring, it is apparent stocks are becoming exhausted. This is seen in the sudden decline of shipments from the northwest the past week, in the face of an urgent demand for the grain at high prices. There is no doubt but that farmers would be willing to sell if they had the grain. But the large reserves held in that section during the last four or five years have become exhausted—their bins have been cleaned out as never before within a decade, and the vast milling industry of the northwest is very likely to find itself so short of grain as to seriously interfere with business; and this cannot be remedied before the crop sown this spring is ready to harvest. It is true the visible supply increased the past week over a million of bushels, but this is accounted for by farmers shipping the last of their holdings. This week shipments have dropped off very fast, although prices have held up well.

The above summarizes the bull side of the market. Let us look at the bear side. It is urged that the foreign demand for wheat has fallen off and prices have declined abroad. This is true. It is also claimed that the receipts at British ports are in excess of present demands. The reports

cabled across from Liverpool are in line with this claim. It is also asserted that the receipts from India, Russia and Argentina are so large as to cut off much of the demand for American wheat, as shown by the light sales for export, and the increase in the visible supply. These assertions are true to a considerable extent. The high prices are causing those countries to ship out every bushel they can spare. But neither Argentina nor India had any old wheat on hand, and it will not take long to exhaust their crops if the present rate of shipments is maintained.

Another point of weakness is the generally good condition of the growing crop in this country and in most countries in Europe. But the great point is the question of supplies from now until the next crop is available. Are they likely to be in excess of the demand? We do not believe they are. Once the new crop is available we look for a sharp decline in values. How much that will amount to can only be determined by the outcome of the harvest, and it is too early yet to even make a good guess as to what that will be. One thing is sure, however, and that is that wheat values must be maintained somewhere near present values for some weeks yet, and that prices will not then decline to the extent many believe probable. It will take another year to bring down values to their old range.

## WHERE ARE WE AT?

On Monday last the United States supreme court decided that the laws passed by the states of New Hampshire and Pennsylvania, for the suppression of the sale of oleomargarine in those states, were unconstitutional. The cases under trial from the respective states were somewhat dissimilar. In the Pennsylvania case the parties prosecuted were charged with violating the state law prohibiting the introduction of oleomargarine into the state. In the trial of the case in the lower Pennsylvania court the law was held to be unconstitutional on the ground that it infringed the provision in relation to interstate commerce. The supreme court of the state reversed the decision, holding the law to be unconstitutional. Now the United States supreme court reverses the decision of the State supreme court, holding that the convictions were invalid because the state law is in contravention of the federal constitution, thus sustaining the lower court.

In the New Hampshire case, while the same question was involved, it came up in somewhat different shape. The law of that state provides that when the oleomargarine brought into the state is colored pink, then the party bringing it in shall not be prosecuted. The state supreme court had held the law to be constitutional, but the United States supreme court declares that this provision of the law was only an evasion, and that the law was unconstitutional.

With these decisions upon this question, we are naturally anxious to know where they leave our Michigan law. Will they not practically allow manufacturers in other states the privilege of shipping oleomargarine into this State, colored as they please, so long as it is sold in its original packages? It really looks as if these decisions must have great influence in determining the status of oleomargarine in the various states, and make it still harder to regulate its sale.

While these decisions must be accepted as a set-back to the passage of drastic laws for the suppression of the sale of oleo, there is one point upon which the average citizen in every state can feel pleased with, and that is the evident determination of

the national supreme court to prohibit the passage of laws which in any way interfere with commerce between the states. It is one of the most important of the provisions which bind the states together, and make them a nation. If one or more states were allowed to discriminate in any way against the products of another, we should soon have another rebellion on our hands, and internal broils would be as frequent as floods along the Mississippi. Every thoughtful man will see the great danger to the peace and welfare of the Union if the regulation of commerce between the states was subjected to the whims or prejudices of the various state legislatures. That would be a terrible price to pay for the suppression of the sale of uncolored oleomargarine.

## THE NICARAGUA CANAL.

Over a year ago, in discussing the question of whether or not the United States should complete and assume control of the Nicaraguan canal, we pointed out how invaluable it would prove in case of a foreign war. At that time even the shadow of an approaching war was not in evidence; but we believed then, and do now, that war is always a possibility, and that to neglect proper preparations is sure to result in defeat and disaster.

Well, war has come, and the great help a canal across the isthmus would be to this government can be realized. The only natural weakness of the country is in its extended coast line, and to protect it we must have a navy. But this coast line is divided by the isthmus so effectively that the finest navy on either coast can be of no assistance to the other. As one coast is as open to the assaults of an enemy as the other, to protect them we must have two navies. Neither could be reinforced except by passing around Cape Horn, as the Oregon has recently done, requiring six weeks of time, and entailing a voyage of 13,000 miles, with its great risks and enormous consumption of fuel. Had the Nicaraguan canal been completed the Oregon could have reached Sampson's fleet from San Francisco in a week or ten days. And what is far more important, Admiral Dewey would long ago have received reinforcements, in the shape of vessels and troops, for which he is still waiting. It has been urged against the officials at Washington that they have been very dilatory in forwarding needed supplies and reinforcements to Manila, and it certainly seems as if matters could have been pushed forward much more expeditiously. But the trouble seems to be largely one of conditions, not of lack of promptness on the part of those charged with the duty of directing movements of the navy and army. To send troops in sufficient numbers to be of any benefit in occupying such a place as Manila, a large number of vessels are required, and they must be of a high class to be entrusted with such a duty. It is a large vessel which will carry 1,200 men with their subsistence stores, equipments, and sufficient coal for a voyage of over 6,000 miles. These vessels cannot be picked up whenever wanted. If the troops were to be shipped from the Atlantic coast transports could be readily procured; but on the Pacific coast they are difficult to secure because they are scarce. If the canal was in operation how easily some of the transports now lying at Key West could be sent to San Francisco, loaded, and then dispatched to Manila.

It is unfortunate Dewey has not been reinforced sooner. Some critics contend that Manila should not have been attacked until troops were ready to take possession of the city when it had been captured. But there is one point that must be remembered in any



discussion of that subject: the Spanish fleet at Manila was a standing menace to the cities on the Pacific coast. Dewey's victory insured perfect security and swept the Spaniards from the Pacific ocean. Then their fleet cannot be replaced, if they had the ships, in less than thirty days. That victory was far-reaching in its effects, and besides annihilating the Spaniards it had a very salutary effect upon public opinion in certain European countries that are not very favorably disposed toward the United States. It came at the right time to be most effective. The only thing to be done now is to reinforce him at as early a date as possible, but that will take fully thirty days yet.

The coast defense monitor Monterey is the only war vessel available as a reinforcement. There is no time to send the vessels required from the Atlantic, so the slow-sailing Monterey has to be depended upon. If they could have been sent across the isthmus, several vessels loaded with troops would no doubt have been on their way to Manila ere this. But that strip of land is an impediment that cannot be overcome, and so Dewey must wait, and the country must wait, until vessels have been secured and troops concentrated and equipped, before the Spanish forces can be driven from the Philippines, and the Stars and Stripes float over those islands. If it takes a long time, it is the fault of the American people in demanding war while unprepared to carry it on. But that canal should be built, and built as soon as possible—it is a necessity.

#### WHAT A MEXICAN EDITOR THINKS OF IT.

The Mexican Herald, published in the City of Mexico, says of the present position of the United States:

"It is a remarkable spectacle, this evolution, in a few months' time, of a new world-policy for the great republic. The Americanism of 'bluff' and buncombe gives way to the higher Americanism as outlined by Tilden, that of a nation, puissant among the peoples of the earth, rich beyond compare and girded for battle. The Spanish war comes in the course of Providence to awaken the dormant aggressiveness and virile qualities of a great people. Better far a Caesar than the dry rot of political corruption and the impudent purchase of legislators; better the sword than the stealthy methods of the monopolists. The present war is an incident; the progress of the huge nation to the north of Mexico is assured; nothing can retard it, and it will soon number 100,000,000 people, and will go on to double that size, holding together probably, under a common sense interpretation of its constitution, the central government becoming more efficient and powerful, while not cramping local initiative by unwise centralization. Giving the American people free play for all their activities, and holding to a high, imperial conception of the mission of the nation, the United States will become the first power in Christendom."

There are some unpalatable truths in the above extract, and it outlines a policy of expansion and national aggrandizement which is very soothing to American pride. But there is great danger in such a policy—danger to the freedom of the people and the life of the Republic. Such a nation would become so powerful, and its interests so widely scattered, that internal peace could only be secured by an immense standing army, while it would be a menace to every weaker nation. It would require constant wars to give employment to its armies, and while they were in progress the liberty of the individual would suffer. We had better beware of such an ambitious program as the Mexican editor sketches. He evidently thinks a state of war is the normal condition of a great nation.

There is one thing he refers to which

can be recalled with profit at the present time. The address issued to the American people shortly before his death counselled that the surplus revenues of the country, then larger than the requirements of the country, should not be decreased, but that the surplus should be used in building up a navy and establishing a proper system of coast defenses. Had that advice been followed, what a different aspect the war with Spain would have assumed. It is not improbable that no such war would have occurred, for Spain would have realized its hopelessness and bowed to the inevitable. But the surplus was reduced with a vengeance, and we have had the spectacle of a great nation running around purchasing second-hand ships at enormous prices to protect its coasts and fight a third-rate power. We hope the lesson will not be forgotten when peace is again assured, and that American patriotism and national pride will prevent the country ever again being placed in such a helpless position.

The war is giving politicians an excellent opportunity for securing soft and lucrative positions for their "favorite sons." The system of favoritism extends from the national to the state governments, and a lot of green boys have been given positions in which they can do little good, as they have neither knowledge nor experience, while they may do an immense amount of harm. The only man individually interested who has openly opposed this system of favoritism in ex-President Harrison. His son, Russell Harrison, was appointed an assistant inspector general of the army, with the rank of major. The ex-president refused to endorse the application for his appointment, and when it had been made he announced that he had nothing to do with it, and that it was unwise, as his son had neither the experience nor fitness for so important a military position. It would be well if some of the cabinet officers, senators and governors had a little of the good sense of the ex-president, who is a tried soldier and knows what an army officer should be to fit him for such important positions.

As regards American salt beef, says the London Meat Trades Journal, the price has gone up, owing to the war. Exporters are beginning to send their stuff through Montreal, as no one can tell when the Spanish fleet may appear off New York. This necessitates transshipment and causes a rise in prices. A good deal of the rise is, however, due to speculation. Salted beef has gone up £1 (\$5) per tierce.

#### A Desirable Scale.

We take pleasure in referring our readers to the advertisement of the Osgood Scale Company, Birmingham, N. Y., whose familiar face appears in this issue among our advertising friends.

This well known company has a reputation for over forty years back of the goods they send out, and we believe it will pay all our readers to correspond with them before buying scales this season.

#### Detroit's Physicians and Surgeons.

No other city of anything like the size can boast of so many really successful physicians and surgeons as can Detroit. Since it has become generally known that certain cases of rupture or hernia can be successfully operated upon, Detroit surgeons have had many applications from those afflicted with this most troublesome complaint. While an operation is absolutely necessary in some of the more aggravated cases as the only hope of relief, about 95 per cent of these cases are advised to adopt a thoroughly practical and scientific course of mechanical treatment. For a great many years it was only considered possible to relieve hernia by some sort of mechanical contrivance that would help to hold it in place. Cures were considered practically impossible, but by the careful co-operation of the surgeon and mechanic it has been made possible to cure almost any and every form of rupture without resorting to a dangerous operation. Chas. Cluthe, who has offices in the Valley building, at 213 Woodward Ave., has probably given the subject of the mechanical treatment of hernia greater study, and enjoys the confidence of leading surgeons to a greater extent than any other man in the country. He is the inventor of appliances and methods for the cure of hernia that are making a reputation for him that is second only to the fame of the leading Detroit surgeons. Mr. Cluthe also works in connection with the physician and surgeon in the manufacture and fitting of various forms of deformity appliances, etc. He has issued a neat booklet, which he calls "The Truth About Erupture and Its Mechanical Treatment," which must make interesting and valuable reading for anyone interested in the subject.—From the "Journal," Detroit, Mich.

Statistician Snow, of Chicago, who furnishes crop estimates for the Chicago Board of Trade and the Orange Judd Farmer, is out with the announcement that the minimum amount of the next wheat crop will be 700,000,000 bushels. What he estimates as the maximum is not stated. As these figures are published by Chicago bear operators to depress prices, and the Orange Judd Farmer is quoted as authority for the figures, it has a most unfortunate effect upon the wheat market. Not content with this attack upon wheat values, which is really what such estimates amount to, Mr. Snow, who is the secretary of the proposed corn propaganda, has suggested the adulteration of wheat flour with corn meal, so as to advance the price of the latter. It really looks as if he had determined to injure wheat values in some way, and is attempting to do so by publishing enormous estimates of the yield of the next crop, and then lessening the demand for it by recommending corn meal as an adulterant. Just why he should make these attacks upon wheat is a problem we shall not attempt to solve. Perhaps he has been on the wrong side of the wheat market. Whatever the reason may be, wheat growers should be very careful in accepting his figures or any conclusions he may draw from them.

At Chicago the demand for calf skins to meet the requirements of contractors who have government contracts for supplying army shoes, has cleaned that market of calf skins and harness leather, and prices have been advanced 10 per cent. More than \$500,000 worth of leather has been bought in that market within two weeks. Heretofore cowhide leather has been used, but now calf skins are preferred for use in the South. Sole leather has been closely picked up, and prices advanced one to two cents per pound. All leathers are firmly held with an upward tendency, 12 1/4 cents being bid for sole leather hides. This has had a decided tendency to strengthen the market for cattle and veals.

#### NEWS SUMMARY.

##### Michigan.

Tuscola county boasts that for the first time in its history not a single piece of land within its borders is offered for sale for delinquent taxes.

Sparta wants a cannery factory this season, as the prospect for the coming fruit crop in that section is said to be flattering.

J. Clark Pierce, aged 70, of Coldwater, state agent of the board of corrections and charities, and secretary of the Branch County Farmers' Mutual Insurance Company, dropped dead Saturday while at work in his garden.

Gov. Pingree has appointed Prof. E. S. Johnson, of the law faculty of the University, member of the state board of education, to succeed J. W. Simmons, who resigned last week to accept a position as director of the State Normal Training school.

Prof. A. A. Crozier, who left the Agricultural College some months ago on account of ill health, is now in the far west. Since leaving Michigan he has taken a trip to Hawaii, but writes that he received no permanent benefit from it. He contemplates returning to Michigan for the summer.

The state superintendent of public instruction has issued a warning to officers of school districts against agents selling reading charts at \$37 per set. The charts are inferior and the law limits the price to \$16. Agents use a bogus endorsement from Supt. Hammond. They have been working Huron county lately.

##### General.

The first-class battleship Alabama was launched at Cramp's shipyard Philadelphia, last week. The vessel was christened by Miss Mary E. Morgan, daughter of the Alabama senator.

Edward Bellamy, the well-known author of "Looking Backward," died at his home in Chicopee Falls, Mass.,

last Sunday of consumption. He had recently sought relief from the dread disease by fleeing to Colorado, but to no avail. He was only 48 years old.

Henry S. Foraker, the father of Senator Foraker, died at Hillsboro, O., May 23. He was 83 years old and died of heart disease and old age. He has lived in Highland county, Ohio, since 1820. Mrs. Foraker and four sons and four daughters survive him.

Congress is still working on the war revenue bill. As reported from the house, the measure would raise about 100 millions; as reported from the senate committee it would raise about \$151,500,000. The senate finance committee estimate that the war expenses up to July 1, 1899, will be \$379,192,000.

Forty-two persons are known to have lost their lives, and 28 others are reported dead as the result of the tornado which devastated portions of eastern Iowa, western Illinois and northern Wisconsin on the night of May 18. In Iowa 19 were killed; in Illinois, 14, and in Wisconsin 9 known, and enough reported to bring the total up to 37. Many were injured, and the destruction of property was great.

#### War Notes.

The Spanish lost heavily during the recent engagement at Cienfuegos. Reports say that 300 were killed and several hundred wounded.

The battleship Oregon reached Key West in safety early in the week and has since joined Sampson's squadron.

On Wednesday of this week President McKinley issued his second call for volunteers. The number wanted this time is 75,000.

The cruiser Charleston sailed from San Francisco, May 18, with supplies and men for Dewey at Manila. Gen. Merritt went along and will be provisional governor of the islands.

Up to May 23, 106,000 volunteer soldiers had been mustered in under the call for 125,000, and 20,000 more will be ready soon. Complete quotas of volunteers have been furnished by Ohio, Oregon, District of Columbia, California, Kansas, Maine, Maryland, Minnesota, Massachusetts, New Hampshire, Pennsylvania, Vermont, Washington, West Virginia, Wisconsin and Wyoming.

Senor Polo y Bernabe, late Spanish minister to the United States, has been in Montreal, Canada, ever since his departure from Washington at the commencement of hostilities, gathering and furnishing information for Spanish authorities. He sailed for Liverpool, May 21, but is succeeded by Don Juan du Bose, formerly chief secretary of the Spanish legation. The headquarters of the Spanish spy system will now be in Quebec. It is stated that United States secret service officers are watching Polo and Du Bose closely.

The chief interest during the past week has centered in the movements of the Spanish fleet under Cervera. The public has had to put up with the "guessing" of the newspapers, based on such information as could be obtained outside of official sources. Cervera appeared at Curacao, a Dutch island off the coast of Venezuela, and left there Sunday evening, May 15. Last Friday the report was sent out from Madrid that the fleet had entered the bay at Santiago de Cuba, on the southern coast of the island. This report was not credited, as the fleet would be completely bottled up in the land-locked bay. In the meantime Sampson's fleet and Schley's flying squadron effected a junction at Key West, May 20, and after replenishing with coal and supplies, separated, Sampson going to the west and Schley to the east. Their destination or special objects were matters of conjecture, as well as the whereabouts of the Spanish fleet.

#### A Low Wagon at a Low Price.

The money-making farmer of to-day wants a low built, easily loaded, easily unloaded, light draft, powerful short turn "Handy" farm wagon; a wagon that will save the farmer's own back, save his horses, save his hired labor and save him money.



This wagon is built by the Empire Manufacturing Co., Quincy, Ill. It is only 25 inches high with 4-inch tired wheels, and is sold for the low price of \$19.95. This firm also manufactures Metal Wheels any size, any width of tire, hubs to fit any sized axle. Write for catalogue.



## The Household.

CONDUCTED BY MRS. ELLA E. ROCKWOOD.

We should be pleased to have any of our readers who take an interest in household topics, send in their views and opinions upon any subject which is under discussion, or which they wish discussed. The invitation is general, and we hope to see it accepted by many. Address all letters for The Household to Mrs. Ella E. Rockwood, Flint, Mich.

### OUR NATION'S DEAD.

They lie on many a field of strife,—  
Our nation's dead.  
Their country's call it sent them forth  
Their blood to shed.  
Nor home nor kindred held them back,—  
Our boys in blue,—  
But bravely to the front they went,  
Each heart so true.

And some in noisome prison cell,  
Their lives laid down;  
While others belching cannon slew  
Before its frown.  
Far, far away from loved ones all  
Their hearts' blood flows,  
With no soft hand, when all is o'er,  
Their eyes to close.

To-day we homage give them here,  
With bowed head.  
We drop for them the silent tear—  
Our valiant dead.  
And reverently we gather round  
Each low, green bed,  
And scatter flowers as we pass  
Above their heads.

E. E. R.

### HOME CHATS WITH FARMERS' WIVES.

#### WHEN OUR LOVED ONES LEAVE US.

The story of Love is said to be both old and new—it is the same old, old story, told in the Garden of Eden, no doubt, and repeated times without number down through the ages to the present, and yet it is as new to-day as it ever was, and will continue so to be as long as this old world shall remain.

It is exactly the same with the change which we call death. Century after century has passed and untold millions have come to the boundary of life and silently passed over, never to return, yet every time an immortal soul passes out into the spirit world the scene takes on a different aspect—each brings its own peculiar sorrow—every casket is bathed with some one's tears. 'Tis the old, old story, yet ever new, ever different from the last.

And what a difference it makes as to its particular interest to us whom it is that is called to leave this world behind. We may look on with tearless eyes when another than ourselves is bereaved. Our hearts may sympathize but we can never feel the actual grief and anguish of the parting until the iron has entered our own soul. When one near and dear to us has been taken we begin to understand what death really means. Then we wonder that others can stand unmoved about the coffin form which to us is so dear. We call cold and unfeeling the friends who can soon go back to the pleasures of the world, which to us have lost all charm. The particular spot in the cemetery so infinitely precious to us is much the same as others to them. It makes all the difference in the world, doesn't it?

How differently such bereavement affects people. Some feel chastened, and in the midst of their grief acknowledge the Omnipotent power and say, Thy will be done. Deeply as the heart is bowed and broken, the affliction but draws them nearer to the Father, trusting His wisdom and believing that He doeth all things well. Frequently a great change is noticeable after a dear one has been taken away, and we hear it said of some one, that he or she has never been the same since a certain loved one died.

Again, we see those who do not receive such affliction in this manner. They are rebellious, and instead of trying to put aside their grief for the sake of the living, nurse it and wrap themselves up in sadness, never permitting a ray of sunlight or a note of music in the home for months afterward. Where there are children, the effect of such a course can but be harmful. It should be remembered that to them life is still full of light and music and laughter—but the natural outflow of childish spirits. To constantly check these and remind them of grief would be wrong. Older ones should remember this and, while childish merriment may sometimes grate upon the ear, still, it is better to let it go unchecked than to keep them constantly in a state of gloom. Most children shrink instinctively from mourning attire, and it is cruel to enforce it upon them, as is sometimes done. Life holds some-

thing still worth living for, no matter how deep the bereavement. If we expect to happiness for ourselves, we can live for others, which is surely worth while.

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While upon this subject, I intended to write something about funerals, but must leave that for some other time. Surely, there is much which might be said upon the subject. I have my ideas of how such services should be conducted and I must say they do not exactly coincide with what is customary at present.

### A PIONEER INCIDENT.

The request of Bessie S., in regard to cold dinners, reminded me of the dinners I used to put up for my husband, some thirty-four years ago. He took a job of chopping two miles from home and took his dinner, which consisted of johnnycake and venison, nothing more. It was in the winter and his dinner would often be frozen, so he had to cut it with the ax, and make a fire and thaw it. A pie, or cake, was seldom seen, as sugar was so dear.

My husband took up a homestead in "Starving Gratiot," and we moved there in 1863. Such a time as we had coming from Ithaca. The road was so crooked and so much mud and water it was hard to follow it. The mosquitoes were like a swarm of bees. I was obliged to take up my dress skirt and put it over my head to keep them off my baby, which I was carrying, as I had to walk most of the way—a distance of forty miles it seemed to me before I got to my cousin's, where we were to stay until our house was ready to move into. The team got stuck several times and they would unload a part of the goods and go on, leaving them beside the road. Finally they broke down and had to leave the load until the next day. The men laughed at me for crying, but I just couldn't help it, and I can hardly help it now as I think about it.

When we got here we did not have a cent of money, and were in debt for the last night's lodging. We brought two barrels of flour, and half a barrel of pork with us. One barrel of flour was gone in two weeks—lent out. My husband planted some potatoes on my cousin's place, so we had some for seed the next year, and a few to eat. Our house was a one-story log house, with a "punchoon" floor and "shake" roof. When half the roof was on, and half the floor laid, we moved in, and hung blankets at the door and window. I did not sleep much the first two or three nights, as I was afraid of wild animals getting in the house. Provisions were very high, flour was \$20 and corn meal \$10 per barrel. Sugar 10 to 15 cents a pound, and tea \$1 a pound for the very cheapest, and everything else accordingly.

I remember one time my husband went to Ithaca after some meal. There was only one man there that kept provisions to sell, and there were ten men for every 50 pounds of flour he had. So he started home without any; but he had the good luck to meet a man that had some corn to sell, and he took it back to Ithaca, got it ground, and when he got home it was so musty it wasn't fit for the hogs. But we soon got used to it and thought it was good. He was gone three days. While he was gone I saw five men coming through the woods. My heart flew into my mouth. I thought they were Indians, but it proved to be my husband's brother and some old neighbors from where we moved. They had come down here to hunt. I was glad to see them, but had nothing to offer them to eat but potatoes and venison.

The next year after we came here we bought a cow; then I wanted a churn and my husband had to go to St. Johns after one, as there was none nearer. He went on the stage from Ithaca. He got a box of dry goods, and packed the churn and cow-bell in the box. When he reached Ithaca he found the churn broke, so I still had to stir my cream.

When we came here St. Louis was all woods, with one little store and three or four dwelling houses. My husband helped clear the land where the city now stands. He would stay two weeks at a time, and I stayed alone with my baby and the dog. Lonesome! My! lonesome was no name for it. One day I got so nervous I thought I couldn't stay alone another night. So I milked my cow early and started for my cousin's. The trees were blazed, and I thought I could surely follow the blazing, but there

was so much water to go around that I got off the line and was lost, and had to be "halloed" out of the woods. After that I had rather stay alone than risk getting lost. My husband got lost once so he did not know his own house and pigpen when he came to it, and he says he did not even know his wife, but I guess he did.

One time in summer my husband went to St. Louis to mill with the oxen and sled. There was only one wagon in the neighborhood, and the owner charged \$1 a day for the use of it. It took two days to go, and he staid in the mill all night, and turned the oxen out to browse. We used to make maple sugar and molasses in the spring and as soon as we could raise tomatoes and green pumpkins we occasionally had a pie. We sliced the pumpkin fine and made it like apple pie, with the addition of a little vinegar. Tomato pies we made the same. We also made our own vinegar.

None but the old pioneers know how we had to live; the hardships and privations we had to endure; but for all that we were healthy, and happy, and enjoyed ourselves better then than we do now, if we did have to live on spice tea, johnny cake and slippery elm gravy.

AUNTIE B.

### A FEW SIMPLE REMEDIES AND HOW TO USE THEM.

Every mother should know how to use simple remedies and should always keep them at hand. Always have everything carefully labeled, and accidents will not then occur.

The following have saved many a dollar in the writer's family, that would otherwise have been paid to physicians. In case of a light fever or of a cold, we take aconite, proportion one drop to a teaspoonful of water. Take one teaspoonful every hour. If fever is very high, it may be given every half hour for a short time. A cold (taken on the start) can usually be broken with this treatment.

I have found turpentine a good remedy for sore throat. Bathe the throat well on the outside with it. For a gargle I always use carbolic acid diluted with water. No rule can be given for this, as the strength of the acid varies, and I cannot advise its use by an ignorant person. Sulphur sprinkled in the throat is good, and alum dissolved in water also makes a good gargle. Have a small box filled with powdered alum. In case of croup a quarter of a teaspoonful in a spoonful of molasses will generally relieve the patient.

The following has also been used effectively when all other remedies had failed: Take onions and fat pork, chop well and spread on a cloth; heat and apply to chest.

Some good salve for cuts, burns, etc., should always be at hand. Flaxseed, in case a poultice is wanted, is the best of anything. Mustard should always have a place in our list. I have known palpitation of the heart relieved quickly by a mustard plaster placed over the heart. A splendid remedy for summer complaint that has been used in our family for years is composed of equal parts of camphor, peppermint, laudanum, and rhubarb. Dose for an adult, from one-quarter to one-half teaspoonful. For a baby, a tea made of strawberry leaves is good. Wintergreen and peppermint are both good for children for wind colic, etc.

Worms are a disease in children that is not easily handled, even by some good physicians. I have quitted them in a small child with catnip tea. If a child chokes from them, a little turpentine on the throat will usually stop it. The choking is caused by the worms knotting in the throat, and this drives them down.

Adding to this list one's pet remedies of painkillers and the like, and many simple diseases may be easily treated at home.

IRMA B. MATTHEWS.

### SOME WAYS OF KEEPING MEAT.

I wonder how many farmers' wives know that beef can be successfully canned at home? We usually kill a beef for our own use as soon as the cold weather sets in, but on account of occasional thaws it is impossible to keep it all fresh. We do not like it salted, and I have tried the following with success:

Use common glass cans, being particular to have good covers and rubbers. Boil meat until perfectly tender. Remove all bone and cut into pieces that can be put into the cans. Fill the cans and turn over the meat the water it was boiled in, being careful to exclude

all air, as in canning fruit. This is ready to use at a moment's notice by placing in a saucepan and heating thoroughly. I have kept meat perfectly as late as May. Chicken is fine treated in the same way.

Nearly everyone is familiar with putting down smoked ham, but fresh pork can be fried down equally as well. The process is about the same. Fry, seasoning it as for the table; put into earthen jars, pouring melted lard over it as you proceed. Fill to within an inch of the top. When perfectly cold put a cloth on, and fill the space with salt. Tie a paper tightly over the top. One lady I know fried nearly all her side pork down in this way and had fresh meat all of the time. I have kept it until harvest.

Such helps as these are a godsend to women who live far from markets, and where unexpected company is the rule rather than the exception.

IRMA B. MATTHEWS.

### CHANGING THE WASH DAY.

I speak from experience, but I can also claim dozens of other housekeepers' confidence on this subject. As long as they held to their mothers' and grandmothers' custom of washing on Monday (whether it was cloudy or sunny) they were never quite contented with the custom. It seemed to haunt them, to get up Monday and feel that the dozens of things must be done, so as to have washing done. After some years of depression and a feeling of irritation we all decided to change to Tuesday, and it was an excellent change.

I have not time here to tell you of the many reasons why it was better, but I know from the number of murmurs I hear from the sisters, it is not a favorite one, else why should they call it "Blue Monday."

The best method of washing which I have gleaned from practical women is the following one: First, get a wringer. It costs, but it saves so much time and lameness of wrists that it soon pays for itself. Put your boiler on the stove early Tuesday morning, with two pails of cold water in it. Into this stir two tablespoonfuls of kerosene, which must be thoroughly mixed with powdered borax and one cup of boiling water. Some leave out the kerosene and just use a tablespoonful of borax to the gallon of water, but the kerosene helps to get rid of the dirt a little quicker. Put them in dry—your fine white clothes, table linen, towels, shirts, white aprons and all such. Push them well under with the clothes stick; cover, and boil fifteen minutes, using the stick several times while they are boiling. Turn into the tub, and put in the rest of the white clothes, such as sheets, personal underclothes, etc. Some prepare different water for these, and others just use the first water and add more borax. You will not have any rubbing to do, as the dirt falls out, and is so thoroughly loosened. The underclothes should not boil any longer than the fine ones. Turn the second boilerful into the rubbing tub, cover closely to keep them warm while you are getting your breakfast. Rinse out the boiler and wipe dry; you will not need it again that day.

After the second tubful is rubbed out, rinse all the clothes, and put into the blue-water; stir well with the stick; shake the clothes before pinning to the line, so as to have no blue streaks. Flannels should be washed in hot suds, to which borax has been added.

S. H.

"Goldenrod" asks for a recipe for layer cake which will remain moist for a few days. She says her cakes get dry very quickly.

"N. O. T." wants a recipe for white cake that will be feathery enough to suit her. She says she has plenty of recipes, but none that is quite satisfactory.

### GOOD AS A \$60 MACHINE.

Charlotte, Mich., May 7, 1898.  
Publishers of The Michigan Farmer:  
Dear Sirs—We got one of your sewing machines last July, and are more than pleased with it. It is as good as any \$50 and \$60 machines we can get here.

Yours truly,

ARTHUR E. FOX.

### COMPLETE IN EVERY RESPECT.

Millington, Feb. 1st, 1898.  
Publishers Michigan Farmer:  
Sewing machine to hand about two months ago, but thought I would not write you until I had given it a fair trial, which I have done, and find it complete in every respect. Thanking you for your kindness, I remain,  
Yours truly,  
MRS. ARCHIE BELL.



## SHORT STOPS.

A Northern Star writes: May I come a minute and ask a few questions? I wish some one would send me a recipe for making pieplant pie. I ate some once made with one crust. It had cream in it, but I don't know just how it was made. I want to know how to clean green silk, too.

Common baking soda is good to whiten the keys of an organ; rub it on with a damp flannel cloth. The keys would never get yellow if the organ was left open, except when there is dust flying in the room.

\* \* \*

Enma writes: We all know how provoking it is to have some old hen come along in front of the coop where we have just fed the little chickens and "gobble" up all the food. Some times she will thrust her head clear into the coop and eat it all before the very face and eyes of the rightful proprietors of the little home. Then we come running out with the broom, or madly waving our apron, and "shoo" her away, usually frightening the chickens more than the offending biped. To do away with all this, I have made half-circular screens to place in front of the coops, by taking a barrel hoop, cutting it in two and tacking old wire netting or cloth to each half, one at top, another at bottom. If cloth is used, sticks must be fastened upright at each side to support it. A string tacked to center of the top edge may be tied to a nail in top of coop to keep the screen in place when the wind blows.

\* \* \*

Mrs. Mac writes: We hear so much of higher education nowadays. I sometimes wonder what it is. I think we should look upon education as the bee does the flowers, and seek to store away beautiful thoughts given to us by art, music and literature, that our lives may be sweetened and our ideals of true living come nearer to being realized, and not merely look upon education as the means of raising us above the common laborer. I have heard parents urge their children to study, so they might become something better than a common drudge. I believe that everyone should make the best of themselves that they can, but I think the idea that a little learning makes one too good to work is very wrong. Mrs. Henry Ward Beecher, in her memoirs, tells of the struggles of her early married life, and many women have spent their lives struggling with poverty, with husband as highly educated and as gifted as the world-famous Beecher, but who were not so fortunate as to catch the eye of fame. I doubt if these women who are wailing over the care of home and children would be any more contented, washing and baking, from the fact that their husbands could read the classics in the original. It is money, and money alone, that could dry their tears. I confess I hate to hear these women who judge a possible husband by the size of his pocket-book called new women, for they are not new, but old, old. The new woman gives herself to no man for less than that mutual love and companionship which is above price.

\* \* \*

Hayseed writes: Almost all of my girl friends have, as soon as they have finished one eighth-grade counting school, gone to the city to work in the mills and factories. I am almost the last one of the girls—all gone or going. I love the farm and farm life. A few years ago I nearly lived out doors in the summer. Nothing pleased me better than to drive the horses while they loaded the hay, wheat, etc. I used to plant corn and have even dragged and cultivated with a two-horse riding cultivator, and the only reason I do not do it now, is not because I am too big, but because the mother's health is poor and, with little ones to care for, my services are required in the house.

I am going to raise lots of chickens of my own this summer. By doing that I will get out of doors some. Oh! what fun it will be to care for the little chicks. Don't tell me there is anything equal to the farm.

\* \* \*

Augusta writes: I think Elizabeth must have been particularly unfortunate in choosing her associates. I have been not only "among them considerably," but have associated with the farmer's wife all my lifetime, have toiled with her in the dug-out on the lonely plains of Nebraska and in the elegantly appointed homes here in Franklins—come with all the modern conveniences, including bathroom, tele-

phone connection from farmhouse to farmhouse and with the commercial lines, daily mails and daily papers, and the individual she pictures is not prominent among my acquaintances.

## KEZIAH KEDZIE'S CARPET.

"If at first you don't succeed, try, try again." Keziah was going to school in carpet-making. A kind friend had remarked as she had seen the mistake of the coarse rags in that first carpet: "The finer the rags are cut, the farther they go, and the nicer carpet they make." In Keziah's next effort this fact was kept in mind. One-half the weight of rags was the result; easier to be handled; handsomer for being finer, and would probably last as long. Then, an experienced carpet weaver remarked: "Tear back and forth; anything that will hold together to weave in. You do not need to sew every rag." Inquiring of still another, the reply was: "Though I would not say so to every one, because they are likely to be careless, yet to you, who are careful, I will say, Yes; provided they will hold together. Otherwise, they are a great bother in weaving. The warp will hold them, and cover the ends from sight."

This knowledge was indeed an acquisition. Kizzie was beginning to "know how." Experience taught her, too, that torn rags made in skeins for dyeing will ravel and fringe out in the dye. They will tangle and break in spite of every precaution. Then, they demand rewinding, resewing, and winding into balls a second time.

Truly, coloring in skeins entails a vast amount of extra labor. Dyed whole one has merely to tear back and forth, leaving them joined at the ends a trifle, and wind into balls. The balls should only weigh from half to three-fourths of a pound each. No breakages then for the weaver. Cotton rags with a hem should have the hem severed so as to leave the stitching to strengthen the joining place, when cut. Where no hem is, simply turn the edge on each end, as for a hem, only turning once; then stitch this near the edge, on the sewing machine. Each end should be stitched thus. Then cut the edge stitched the width of a rag and tear back and forth, trimming off the corners with scissors, leaving a mere slip of stitching to keep rags from tearing entirely apart, making one long rag, instead of many short ones. Raglets and small pieces she tacked with darning needle and twine, by the end or center, two inches apart, in short strings, as they handle best in the dye. After dyeing, cut loose again; stitch the ends on the machine, and cut, as above. No tangling, fringing, or fraying. Try Keziah's method.

ARUAL E. S.

## GOSSIP.

"To run about and tattle; to tell idle tales." That is what Webster says of gossip. Do we realize that every time a bit of gossip is repeated that it may mean misery and heartache to some one? If we have not thought of it in that light, then for the love of Heaven let us stop and think now. Let us

weigh well that idle tale before we repeat it once.

It may be that in a spirit of love and kindness we may point out to others their mistakes. There is no one in this wide world who is faultless, and we have learned that there is little happiness to be found here if we are continually looking for wrong and evil. "Alas! for the rarity of Christian charity." We should not be too lenient with sin, yet even then we notice that people who live in glass houses are quite as apt to throw stones as those who do not. Before we censure others, let us be very sure that we are strong to resist temptation ourselves. Placed in like circumstances, would we stand or fall? Even that worn threadbare subject, the weather, is preferable to discussing the faults and failings of our neighbors. There is good in all, though none are all good. Suppose that for one week we look for and speak of only the good in those we see around us. We verily believe we would have almost a heaven on earth.

"Do not look for wrong and evil,

You will find them if you do;

What you measure to your neighbor,

He will measure back to you."

CLARA BELLE.

When there are small eggs in the fowl that has been killed for dinner, break the largest of them and stir with the thickening for the gravy.

If potatoes are left standing in cold water several hours before cooking it makes them much better at this time of the year.

## The Ladies' Home Journal and The Saturday Evening Post from now until January 1, 1899 for ONE DOLLAR



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THE CURTIS PUBLISHING COMPANY, PHILADELPHIA



## Legal Department.

CONDUCTED BY EARL D. BABST,  
56 Moffat Building, Detroit.

**Wife Not Liable for Debt of Husband.**—W. W., Ashland, Mich.—If A's wife comes into possession of money and B has a note against A, can he turn this note over to administrator holding money belonging to A's wife, and collect from those funds his note against A?—No. A wife's lands and property are not liable for debts of husband. She cannot bind herself for her husband's debts except for a sufficient consideration paid to her for so doing.

**Surface Water—Damage for Increased Flow.**—C. C., Hudson, Mich.—A owns farm of which about 25 acres are drained across the road by 6-inch tile onto B's farm, who, in consequence, is required to put into his farm 8 and 10-inch tile in order to rid himself of increased amount of flowage. Larger ditch and tile means increased cost to B. Can B recover damages of A?—Admitting the facts to be as stated, you would have effective grounds for damages. The owner of the higher land cannot, by artificial means, increase the natural flow of water upon the lower land to the damage of its proprietor. Unless this is a very unusual situation, more careful examination will show, probably, that A has not tiled across the road but to and into the road gutter. If so, B has no cause of action, for the law requires gutters to be constructed along the highways to carry off surface water, and proper drainage permits A to drain to highway gutter.

**Removal of Fixtures Upon Mortgage Foreclosure.**—S. A. E. Jonesville, Mich.—A mortgage of real estate, as a general rule, carries as part of the security all fixtures belonging to the realty, without any special mention of them being made in the conveyance. The intention with which an article of personal property is attached to the realty, whether for temporary use or permanent improvement, has, within certain limits, quite as much to do with the determination of the question whether it has thereby become a permanent fixture, as has the method and manner in which it was attached. A house placed on blocks in such a manner that it was perfectly plain that the owner intended to move it off the land would not pass with the land under mortgage. The mere fact that it was on blocks would not control, but the evident intention, based on all the circumstances, forms the test. A mortgagor has a reasonable time in which to remove his personal property after foreclosure.

**Credit for Planting Trees.**—When Commissioner May Require Trees to be Planted.—J. S., Mountain Farm, Mich.—Shade trees shall be planted along both sides of public highway, at the uniform distance, as near as may be, of sixty feet apart, and not less than twenty-three or more than twenty-five feet from the center line of the highway, but township board may establish different distances. Any person planting shade trees as above is entitled to be credited to twenty-five cents per tree on his highway tax, but not to exceed in the aggregate 25 per cent of his highway tax in any one year. In road districts where there are not trees planted and growing along highways the commissioner may require that at least fifty trees be so planted each year, and may appropriate 25 per cent of highway tax of each year. The overseer, acting under the direction of the commissioner, may require 25 per cent of the highway tax of any person in any year to be paid in money, the same to be applied to planting trees along highway adjoining property of such person. All of the above provisions are not mandatory in townships in which the electors by vote at a township meeting thus determine.

## The Markets.

### WHEAT.

The week ends with both foreign and domestic markets dull and rather weak. High prices have brought out unexpected supplies, and this has weakened values. August futures show the greatest weakness, showing the influence of the new crop. Spot and May futures are the strongest. Liverpool, Paris, and Berlin were all lower on Thursday.

The following table exhibits the daily

closing sales of spot wheat in this market from May 1 to May 26 inclusive:

	No. 1	No. 2	No. 3
May 2.....	110 1/2	112	107
" 3.....	110	111 1/2	107
" 4.....	115	120	113
" 5.....	120	129	118
" 6.....	118	130	115
" 7.....	123	150	123
" 8.....	123	157	123
" 9.....	130	156	123
" 10.....	123	147	125
" 11.....	123	142	125
" 12.....	120	124	118
" 13.....	118	125	115
" 14.....	127	138	125
" 15.....	127	139	125
" 16.....	125	135	125
" 17.....	125	136	125
" 18.....	122	137	125
" 19.....	123	149	130
" 20.....	127	151	130
" 21.....	120	147	125
" 22.....	115	135	120
" 23.....	115	130	120
" 24.....	115	130	120
" 25.....	115	130	120
" 26.....	115	130	120

The following is the record of the closing prices on the various deals in futures each day during the week:

	May	July	Aug.
Friday.....	136	106	94
Saturday.....	149	108 1/2	96 1/2
Monday.....	151	108	95
Tuesday.....	147	106	93 1/2
Wednesday.....	135	106	93 1/2
Thursday.....	130	105	90 1/2

The visible supply of wheat on Saturday last in the United States and Canada was 23,085,444 bushels, as compared with 21,994,000 bushels the previous week, and 28,296,000 bushels at the corresponding date last year. The increase for the week was 1,091,000 bushels.

London cables estimate that Europe in the next ten weeks will require 54,000,000 bu more wheat than the actual supplies.

Wheat sold as high as \$1.35 per bushel in the interior of this State, but it is lower now by considerable.

France, which was complaining of a lack of moisture recently, is now being flooded with rains, which some claim will injure the growing wheat. The crop is said to be looking well.

A movement has been started by a number of prominent farmers of Tarrant Co., Tex., with the object of securing for their wheat crop of this season the full price that prevails at the time it is marketed. A meeting will be held Saturday, May 28, in Fort Worth, when organization will be made and the plan will be thoroughly discussed. Co-operation of adjoining county farmers will be invited. It is stated that the main object is to see that the wheat is placed on the market at the best figures obtainable, regardless of local buyers, and it is hoped that outside buyers will come to Fort Worth.

The world's visible supply of wheat is said to have increased 2,900,000 last week, which was a surprise.

Foreign markets have ruled weaker the past few days.

Cash wheat is said to be in good demand at Minneapolis at high prices.

Recent rains in the northwest have proved very timely, as the spring wheat was not doing well on account of lack of moisture.

Beerbohm says: "The weekly exports of wheat from India during May, June and July promise to be not less than 1,000,000 bu. The high premium paid for early shipment is forcing wheat forward. In 1891-2 exports were 56,000,000 bu for the season. Then shipments in May, June and July averaged 1,800,000 bu."

Harvesting is said to have commenced in Oklahoma.

### DAIRY PRODUCTS.

#### BUTTER.

There is a fair demand for the best grades of both creamery and dairy, but this has not resulted in any improvement in prices. Quotations in this market are as follows: Creamery, 14@16c; prime dairy, 12@13c; fair to good dairy, 10@11c; low grades, 7@9c per lb. At Chicago the market shows some improvement. The demand is more general, and there has been an advance in prices of fine creamery. The feeling in the trade is much better. Quotations in that market on Thursday were as follows: Creameries, extras, 15c; firsts, 14@15c; seconds, 13@13 1/2c; dairies, extras, 13c; firsts, 12c; No 2, 11c; ladies, extra, 12c; packing stock, 9@10c; roll butter, 9@10c. The New York market is also in better shape, and prospects are much more favorable than a week ago, although values are yet at a very low range. The N. Y. Tribune says of the market: "Receipts have shown quite a material increase, but there has been quite a strong demand all the week, and the market has recovered fully 1c per lb on best grades. Besides a very free consumption of butter there has been quite a little speculative buying, upward of 5,000 pkgs going into freezers; then, too, exporters have shown some interest; they had fair orders for creamery at 15@15 1/2c, and have paid up to 16c for a very little. They have also wanted fresh ladies at 12@12 1/2c. These influences have combined to give us an exceptionally good market, and at the close the feeling is firm on fancy creamery at 16c." Quotations in that market on Thursday were as follows: Creamery, Western, extras, per lb, 16c; do firsts, 15@15 1/2c; do thirds to seconds, 13@14 1/2c; do State, extras, 16c; do firsts, 15@15 1/2c; do thirds to seconds, 13@14 1/2c; State dairy, half-firkin tubs, fancy, 15c; do Welsh tubs, fancy, 14c; dairy tubs, firsts, 14c; do thirds to seconds, 12@14 1/2c; imitation creamery, extras, 13@14 1/2c; do thirds to firsts, 12@13c; factory, fresh, 12 1/2c; do thirds to seconds, 11@12c.

Sales at Elgin this week have been at 15 1/2c, but considerable stock was withdrawn and held for higher prices.

#### CHEESE.

There is no change to note in the situation so far as this market is concerned. Jobbers continue to quote 9 1/2@10c for the best full creams. At Chicago the market has shown more activity, but beyond a slight advance in some special grades there has been no improvement in values. Stocks are more firmly held. Quotations in that market on Thursday were as follows: Young Americans, 8@8 1/2c; Swiss, 7 1/2@8 1/2c; cheddars, 7 1/2@8c; Swiss, 11 1/2@14c; limburger, 7@12c; brick, 5@7 1/2c. The New York market is not in a satisfactory condition at present, and we note a decline in values of new cheese, which is generally of poor quality. The Tribune

says of the market: "Supplies of new full-cream cheese have shown a slight increase the last week, but receipts have not increased as rapidly as natural to expect. This is due in great part to the fact of receivers advising factorymen to hold their cheese back until more properly cured. Much of the new cheese arriving has been too green, with most lots showing a mixture of hay and grass, while some have shown effects of the extreme heat last week. During the latter part of last week export demand was a little interfered with by the scarcity of ocean freight room, and some of the late arrivals had to be carried over. At the close the market is in a decidedly weak and unsettled position, due largely to the discouraging conditions of the foreign markets and lack of export orders, and at the close 7c is all that can be depended upon for average best colored large cheese and 6 1/2c for white, with in fact more sellers than buyers at those figures." Quotations in that market Thursday were as follows: New cheese—State, full cream, large, colored, choice, 7c; do white, 6 1/2c; do good to prime, 6 1/2@6 3/4c; do small, colored, choice, 7@7 1/4c; do white, 7c; do good to prime, 6 1/2@6 3/4c; do common to fair, 6@6 1/4c; light skims, small, choice, 5 1/2@6c; part skims, small, choice, 5 1/4@5 1/2c; do large, 5c; do good to prime, 4 1/4@4 1/2c; do common to fair, 3 1/4@4c; full skims, 2@2 1/2c. Old cheese—State, full cream, colored, fancy, 8 1/2@9c; do prime to choice, 7 1/4@8 1/4c; do white, fancy, 7 1/2c; do prime to choice, 7@7 1/4c; do common to good, 6 1/4@6 3/4c.

The Liverpool market is dull, with prime American colored cheese quoted at 42s for colored, and 40s for white, a decline of about 2s (48c) per cwt since our last report.

### WOOL.

There is a firmer tone in the wool market than a week ago, although the increase in business has been small, and generally in special lines. The most activity is shown in medium wools, such as Down and cross-breeds, which are wanted by manufacturers who have secured army contracts. These wools are quoted at 21@22c in Boston (unwashed, of course), but these figures are not good enough to tempt many holders to part with their stock. We hardly think an advance probable for some weeks, but believe it must come, the wools mentioned above being likely to advance first.

So far as we can learn but little wool is moving in this State, offers from buyers not being satisfactory to growers. The latter are in better condition to hold than for a number of years, as about all farm products are bringing satisfactory prices if we except dairy products.

As to eastern prices, they hold steady, with quotations at the following range: Ohio and Pennsylvania fleeces, X and above, 25@26c; XX and XX above, 29@30c; delaine, 30c; No 1 combing, 30c; No 2 combing, 29c; Michigan, Wisconsin, etc.: X Michigan, 23c; No 1 Michigan combing, 29c; No 1 Illinois combing, 29c; No 2 Illinois combing, 28c; X New York, New Hampshire and Vermont, 22@23c; No New York, New Hampshire and Vermont, 23c; delaine Michigan, 28c. Unwashed medium: Kentucky and Indiana, 1/4-blood combing, 23c; Indiana 3/4-blood combing, 22@23c; Missouri 1/4-blood combing, 21@22c; do 3/4-blood combing, 22@23c; braid combing, 20c. These are all old wools. Very little of the new clip has yet reached that market. Most of the clip in this State has been shorn unwashed, and is yet in the hands of growers. Some clips have been shipped to commission houses in Boston and Chicago, to be held for orders. No one believes that values are as high as they will be later on, and while the disposition to buy at present is not at all strong, the disposition to sell is even less so. Both buyers and sellers are waiting for developments.

The May series of wool sales at London closed last week. The last sales were at the highest prices obtained. New South Wales and New Zealand were strongly supported. Competition was strong throughout the sales, with prices ruling against buyers, especially low cross-breeds. During the series 206,000 bales were available, and of this number 178,000 were catalogued, 10,000 withdrawn and 28,000 not offered, and carried over to the next series. The home trade purchased 82,000 bales and the continental buyers 70,000 bales. The Russian buyers purchased a few hundred. A few trial lots were taken by the American buyers. Early sales showed hesitation, with occasional declines. Merinos and cross-breeds showing 5 per cent. lower than the second series. After a few days the sale became animated and prices hardened until the March quotations were equaled. Low Merinos and cross-breeds, however, did not fully recover the losses of the early part of the series, and closed at 5 per cent. lower than the second series. The strong tone noted in fine Australian fleeces has caused holders of those wools on this side of the Atlantic to advance values.

Reports from interior points are very meager as yet. At Mt. Pleasant the Tribune reports sales at 13@17c. There are four buyers at that point, and but little wool coming in.

At Lansing a considerable amount of wool has been purchased at a range of 12@19c for unwashed.

The Republican-Leader claims that St. Louis is the liveliest market in the State. It quotes unwashed fleeces as selling at 15@18c per lb., and they should be worth that at other points.

The Ovid Register quotes unwashed medium and coarse wools at 14@20c, and unwashed fine at 8@14c. What kind of wool is it that sells at 8 cents? It must be from a Poland-China. It surely never came from a sheep.

### DETROIT PRODUCE MARKET.

Detroit, May 28, 1898.

**FLOUR.**—Quotations on jobbers' lots in barrels are as follows:  
Straights.....\$7.00  
Clear.....6.25  
Patent Michigan.....7.00  
Low Grade.....5.00  
Rye.....4.50

**CORN.**—The visible supply of this grain on Saturday last in the United States and Canada was 19,504,000 bu, as compared

with 22,460,000 bu the previous week, and 11,475,000 bu at the corresponding date in 1897. Quotations in this market are as follows: No 2, 37 1/2c; No 3, 37c; No 2 yellow, 38c; No 3 yellow, 37 1/2c per bu.

**OATS.**—The visible supply of this grain in the United States and Canada on Saturday last was 8,114,000 bu, as compared with 8,706,000 bu the previous week, and 8,889,000 bu at the corresponding date in 1897. Quotations are as follows: No 2 white, 31 1/2c; No 3 white, 31c per bu.

**RYE.**—The visible supply of this grain in the United States and Canada on Saturday last was 1,448,000 bu, as compared with 1,427,000 bu the previous week, and 2,898,000 bu at the corresponding date in 1897. No 2 selling at 60c per bu.

**BARLEY.**—The visible supply of this grain on Saturday last was 486,000 bu, as compared with 582,000 bu the previous week, and 1,524,000 bu at the corresponding date in 1897. But little offering; quoted at \$1 per hundred.

**FEED.**—Jobbing quotations on carload lots are as follows: Bran and coarse middlings, \$14; fine middlings, \$15; cracked corn, \$17; coarse cornmeal, \$16; corn and oat chop, \$15 per ton.

**BEANS.**—Quoted at \$1.20 per bu for spot, and \$1.21 for July delivery.

**LIVE POULTRY.**—Chickens, 8 1/2@9c; fowls, 7 1/2@8c; ducks and geese, 7 1/2@8c; turkeys, 10@11c per lb.

**EGGS.**—Selling at 30@31c per doz.

**TALLOW.**—Quoted at 3 1/4@3 1/2c per lb.

**RUTABAGAS.**—Quoted at 18c per bu.

**HAY.**—Steady at \$8.75 per ton for best timothy.

**CABBAGE.**—Quoted at \$2@2.25 per two-barrel crate.

**DRIED FRUITS.**—Evaporated apples, 8 1/2@9c; evaporated peaches, 10@12c; dried apples, 4 1/2@5c per lb.

**APPLES.**—Selling at \$3.00@3.50 per bbl for fair to good, and \$3.75@4 for fancy.

**MAPLE SUGAR.**—Pure quoted at 10@11c per lb; mixed, 8@9c per lb.

**HONEY.**—Quoted at 9@11c per lb for ordinary to best.

**ONIONS.**—New quoted at 95c@1.00 per bu for Michigan. Southern new, \$1.50 per bu.

**POTATOES.**—Market has declined. Quotations are 70@75c per bu from store, and 60@70c from farmers' wagons.

**HIDES.**—Market firm and unchanged. Quotations are as follows: No 1 green, 7 1/2c; No 2 green, 6 1/2c; No 1 cured, 9c; No 2 cured, 8c; No 1 green calf, 10c; No 2 green calf, 8c; No 1 kip, 7 1/2c; No 2 kip, 8c; sheepskins, as to wool, 90c@1.25; shearlings, 12@20c.

**COFFEE.**—Quotations are as follows: Roasted Rio, ordinary, 9c; fair, 11c; Santos, good, 14c choice 18c; Maracaibo, 20@25c; Java, 26@30c; Mocha, 28@32c.

Roasted Rio, ordinary, 9c; fair, 11c; Santos, good, 14c, choice 18c; Maracaibo, 20@25c; Java 26@30c; Mocha, 28@32c.

**PROVISIONS.**—Barreled pork is higher; no other changes. Quotations are as follows: Mess pork, \$11.75 per bbl; short cut mess, \$12; short clear, \$11.50; compound lard, 6 1/2c; family lard, 6 1/2c; kettle lard, 7 1/2c; smoked hams, 8 1/2@8 3/4c; bacon, 8 1/2c; shoulders, 5c; picnic hams, 6c; extra beef, \$9; plate beef, \$9.75.

**OILS.**—Lined oils have advanced, as has turpentine. No other changes. Quotations are as follows: Raw linseed, 47c; boiled linseed, 49c per gal; lard 1c for cash in ten days; extra lard oil 53c; No 1 lard oil, 54c; water white kerosene, 8 1/4c; fancy grade, 11 1/2c; deodorized stove gasoline, 7 1/4c; turpentine, 35c per gal in bbl lots.

**HARDWARE.**—No changes in prices since a week ago. Latest quotations are as follows: Wire nails, \$1.60; steel cut nails, \$1.55 per cwt, new card; axes, single bit, bronze, \$5.00; double bit, bronze, \$5.50; single bit, solid steel, \$6.00; double bit, solid steel, \$6.50 per doz; bar iron, \$1.35; carriage bolts, 75 per cent; off list; tire bolts, 70 and 10 per cent off list; painted barbed wire, \$1.65; galvanized, \$1.95 per cwt; single and double strength glass, 80 and 20 per cent off new list; sheet iron, No 24, \$2.50 per cwt; galvanized, 75 and 10 per cent off list; No 9 annealed wire, \$1.45 rates.

### DETROIT LIVE STOCK MARKET.

#### Michigan Central Stock Yards.

Thursday, May 26, 1898.

#### CATTLE.

Receipts Thursday, 568; from the West direct to butchers, 46; on sale, 520, as compared with 380 one week ago. Quality not very good. Market fairly active; good butcher steers and heifers weak to 10c lower; common to fair mixed butchers and cows, 20 to 25c lower. \$4.65 was top price to-day for good butcher steers av 1,050 to 1,150 lbs., but the bulk changed hands at prices ranging from \$3.25@4.50; old to good fat cows, \$2.50@3.30; bulls, \$3.00@3.75; stockers, \$3.50@4.25. Veal calves—13c; calves, 17c; one week ago, 15c; active at \$5.60 per 100 lbs. Milch cows and springers fairly active at \$30.00 to \$50.00 each, mostly \$32.50 to \$45.00.

Fenner sold Sullivan 12 steers av 1,112 at \$4.50.

Shook sold Fitzpatrick 3 steers av 1,056 at \$4.65, 4 cows av 902 at \$3.80, a bull weighing 1,080 at \$3.75 and 1 weighing 850 at \$3.35.

McKiggon sold same a bull weighing 1,440 at \$3.75, 6 mixed butchers av 976 at \$3.25 and a cow weighing 1,090 at \$2.50.

Leonard sold Mich Beef Co 3 bulls av \$20 at \$3.50, 3 mixed butchers av \$83 at \$3.90, 2 do av 905 at \$3.50, 3 do av \$83 at \$3.00 and 12 steers and heifers av \$86 at \$4.30.

Estep sold Marx 2 stockers av 570 at \$1 and a cow weighing \$50 at \$3.50.

A Bray sold Black & Co a cow weighing 920 at \$3.40.

W Clark sold Mich Beef Co 2 bulls av 1,080 at \$3.75.

Ackley sold same 9 mixed butchers av 1,031 at \$3.85.

Robb sold Caplis & Co 4 cows av 1,075 at \$3.40 and 2 choice heifers to Mich Beef Co av 1,300 at \$4.75.

Houghton sold Fitzpatrick a bull weighing 1,280 at \$3.50, 5 steers av 1,074 at \$4.50 and 8 do av 998 at \$4.50.

Sweet & M sold Caplis & Co 9 mixed butchers av \$13 at \$3.90.

Baker sold Magee 2 cows av 1,175 at \$3.50 and a heifer weighing 760 at \$4.25.

Kelsey sold Mich Beef Co 6 cows av 1,061 at \$3.80.

Korff sold Caplis & Co 11 steers and heifers av 1,032 at \$4.40 and 6 mixed butchers av \$98 at \$3.50.

Hall sold Regan a heifer weighing 590



at \$3.75, 9 steers to Black av 1,161 at \$4.65 and 9 do av 771 at \$4.30.  
Ed Clark sold Cook 3 heifers av 726 at \$4.10 and a bull weighing 1,000 at \$3.50.  
Thorburn sold Fitzpatrick 6 mixed butchers av 941 at \$3.00 and a cow weighing 950 at \$2.50.

Oversmith sold Clancey a cow weighing 790 at \$3.25, 2 bulls to Black av 1,180 at \$3.25, 7 mixed butchers to Caplis & Co av 980 at \$3.50 and 2 heifers av 1,215 at \$4.40.  
Roe & Holmes sold Robinson 8 mixed butchers av 857 at \$3.00, 11 steers and heifers av 877 at \$4.40, 27 do av 781 at \$4.50 and 9 do av 850 at \$4.50, 27 mixed butchers to Mich Beef Co av 903 at \$3.70, 2 cows av 1,180 at \$3.50 and 9 steers and heifers to Kamman av 764 at \$4.00.

Estep sold Mason & F 10 stockers av 784 at \$4.25 and 1 do weighing 480 at \$3.50.  
York sold Clancey a cow weighing 770 at \$2.50, a bull weighing 610 at \$3.10 and 9 steers and heifers to Caplis & Co av 893 at \$4.35.

Sharp sold Houghton a bull weighing 660 at \$3.60, 2 stockers to Mason & F av 660 at \$4.15, 10 cows to Black av 1,008 at \$3.50, 2 do av 860 at \$3.00 and 2 av 790 at \$2.50.  
Selley sold Williams a bull weighing 730 at \$3.25 and a stocker to Sullivan weighing 520 at \$3.50.

Joe McMullen sold Mich Beef Co 3 cows av 1,073 at \$3.00, 7 bulls av 677 at \$3.25, a heifer weighing 1,020 at \$4.60, 2 cows av 945 at \$3.50 and 12 steers av 606 at \$4.25.

W Clark sold Mason & F 7 stockers av 730 at \$4.15.

Spicer & M sold Lambert 6 stockers av 371 at \$4.25.

Ed Clark sold Black 4 cows av 1,155 at \$3.50 and 3 cows to Mason & F av 1,023 at \$2.90.

W Clark sold Mich Beef Co a cow weighing 1,110 at \$3.00 and 1 do weighing 920 at \$3.50.

Belhimer sold Mich Beef Co 5 mixed butchers av 900 at \$3.50, and 3 heifers av 713 at \$4.00.

Roe & Holmes sold Sullivan a bull weighing 1,330 at \$3.75, and a steer weighing 740 at \$3.75, and 4 mixed butchers to Kamman av 762 at \$3.60.

Spicer & M sold Cook 2 mixed butchers av 950 at \$3.90.

Watson sold Fitzpatrick 18 mixed butchers av 980 at \$3.50, and a cow weighing 830 at \$3.00.

Burden sold Mich Beef Co 8 mixed butchers av 1002 at \$3.25, and 2 heifers to Fitzpatrick av 815 at \$4.25.

Sprague sold Black 2 cows av 1070 at \$2.90, 6 do av 1005 at \$3.45, and 6 steers to Cook av 965 at \$4.35.

Rook sold Mich Beef Co 2 cows av 1,120 at \$3.25.

Spicer & M sold Kamman 2 cows av 875 at \$3.00, and 1 do weighing 930 at \$2.50, 2 mixed butchers av 770 at \$3.50, and 2 bulls to Mich Beef Co av 1,175 at \$3.35.

McLaren sold Marx 2 mixed butchers av 1009 at \$4.00.

Weitzel sold Caplis & Co 6 mixed butchers av 1090 at \$3.60.

Spicer & M sold Sullivan 5 bulls av 342 at \$3.25, and 2 mixed av 815 at \$3.75.

#### SHEEP AND LAMBS.

Receipts Thursday, 261; one week ago, 557. The few here sold early at strong last week's prices. Range: \$4.50 to \$5.00; mixed butchers' \$3.10 to \$4.40; spring lambs, \$6.50 to \$6.75.

Sprague sold Young 20 av 134 at \$4.75.  
Roe & Holmes sold Robinson 11 mixed butchers av 101 at \$4.25, and 44 clipped lambs av 77 at \$5.00.

Belhimer sold Young 9 spring lambs av 57 at \$6.25.

Watson sold Fitzpatrick 13 spring lambs av 51 at \$6.50, and 6 av 79 at \$4.50.

Thorburn sold same 34 mixed butchers av 76 at \$3.10.

Estep sold same 11 clipped lambs av 70 at \$4.65.

#### HOGS.

Receipts Thursday, 3,642; as compared with 5,178 one week ago. The quality averaged better to-day. Market opened rather slow and lower; later trade was active, and all changed hands at prices 5 to 10c below last Friday's closing.

Range of prices: Mixed lots, \$4.00 to \$4.10; good mediums, \$4.15 to \$4.20; stags, ¼ off; roughs, \$3.40 to \$3.70; pigs, very dull at \$3.40 to \$3.65.

Hoover sold Parker, Webb & Co 47 av 163 at \$4.00.

Mayer sold same 83 av 177 at \$4.00.

McFarland sold same 12 av 181 at \$4.00.

H Spicer sold same 15 av 217 at \$4.10.

Pakes sold same 168 av 168 and 34 av 176 at \$4.00.

Wright sold same 11 av 202 at \$4.00.

McKignon sold same 15 av 197 at \$3.95.

Wade sold same 75 av 196 at \$4.02½.

Korff sold same 79 av 190 at \$4.15.

Kelsey sold same 103 av 178 at \$4.15.

Estep sold same 13 av 199 at \$4.00.

Baker sold same 51 av 201 at \$4.20.

Roe & Holmes sold same 72 av 182, 96 av 172, 107 av 201, 60 av 182, 66 av 196, 60 av 158 and 54 av 159 all at \$4.15, also 51 av 176 at \$4.15.

McLaren sold same 51 av 164 at \$4.10.

Henderson sold same 111 av 147 at \$4.02½.

Oversmith sold same 16 av 172 at \$4.10.

Bandfield sold same 77 av 204 at \$4.10.

O M Baker sold same 102 av 129 and 96 av 157 at \$4.07½.

Joe McMullen sold same 88 av 178 at \$4.20 and 30 pigs av 109 at \$3.50.

Baker sold same 82 av 158 at \$4.07½.

Pakes sold Merch 25 pigs av 91 at \$3.65.

Wolohan sold R S Webb 97 av 159 at \$3.95.

Messmore sold same 101 av 172 at \$4.15.

Donaldson sold same 11 av 196 at \$4.00.

Thorburn sold same 32 av 156 at \$4.00.

Barber sold same 82 av 176 at \$4.00.

Harmon sold same 13 av 145 at \$4.00.

Clark sold same 42 av 181 at \$4.00.

A A Bray sold Hammond S & Co 102 av 167 at \$4.00.

E O Knapp sold same 78 av 163 at \$4.00.

Ackley sold same 81 av 183 at \$4.00.

Sweet & N sold same 60 av 164 at \$4.00.

Stecker sold same 62 av 168 at \$4.00.

Kalahan sold same 57 av 155 at \$4.00.

Cooper sold same 88 av 146 at \$4.05.

Belhimer sold same 17 av 192 at \$4.15.

Ed Clark sold same 55 av 148 at \$4.05.

Weitzel sold same 56 av 176 at \$4.05.

Spicer & M sold same 53 av 169 at \$4.10.

York sold same 80 av 157 at \$4.02½.

Spicer & M sold same 44 av 187 at \$4.10, and 52 av 158 at \$4.15.

Robb sold same 39 av 192 at \$4.10.

Rook sold same 18 av 176 at \$4.15.

Dillon sold same 59 av 156 at \$4.10.

Selley sold Sullivan 25 pigs av 107 at \$3.50.

Oversmith sold same 14 pigs av 95 at \$3.40.

Friday, May 27, 1898.

#### CATTLE.

Receipts Friday, 111, as compared with 122 one week ago. Market opened fairly active and about steady with yesterday's prices, but at the close was rather slow and weak. \$4.60 was top price to-day for 17 steers av. 1180 lbs., balance as noted. Veal calves steady. Milch cows unchanged; very few here.

Judson sold Black 3 cows av 1100 at \$3.50.  
Roe & Holmes sold Mason & F a canner weighing 870 at \$2.50 and a bull weighing 390 at \$3.50.

Luckie sold Caplis & Co 4 fat cows av 1092 at \$3.55 and a bull weighing 960 at \$3.25.

Pinne sold Sullivan a stocker weighing 580 at \$4.00 and 2 cows to Caplis & Co av 1025 at \$3.25.

Fenton sold Regan 2 cows av 1055 at \$3.20.

Weeks sold McIntyre a steer weighing 930 at \$4.30 and 2 heifers av 680 at \$4.00, 3 mixed butchers to Kamman av 823 at \$4.05 and 5 cows av 974 at \$3.50.

Horne & R sold Regan 2 stockers av 535 at \$3.90.

Fenton sold Mason & F 4 stockers av 750 at \$4.15.

Haley sold Regan 10 mixed butchers av 676 at \$3.75, 2 do av 975 at \$3.30, 17 steers to Caplis & Co av 1180 at \$4.60, 5 steers to Sullivan av 922 at \$4.40, 4 do av 1142 at \$4.00 and a bull weighing 1400 at \$3.25.

Murphy sold Caplis & Co 3 steers av 1022 at \$4.40, a cow weighing 1150 at \$3.50, 3 cows to Black av 1086 at \$2.85 and 2 do av 1060 at \$3.50.

Cassey sold Black 5 cows av 1066 at \$3.50, 2 do av 1180 at \$3.25 and a bull weighing 1780 at \$3.50.

Fox & Bishop sold Caplis & Co 6 mixed butchers av 1039 at \$3.70 and 2 cows av 990 at \$3.00.

#### SHEEP AND LAMBS.

Receipts Friday, 145; one week ago, 419. Market active; the few good here sold early at strong yesterday's prices.

Murphy sold Monaghan 11 av 74 at \$4.75.

Judson sold same 32 av 68 at \$4.50.

Roe & Holmes sold same 11 av 83 at \$4.30.

Cassey sold Bullen 14 av 97 at \$5.00.

Horne & R sold Mich Beef Co 13 spring lambs av 67 at \$6.00.

#### FARMER MARKETS.

##### HOGS.

Receipts Friday, 2,274, as compared with 3,548 one week ago. Of good average mixed quality. Market active and strong, 5 to 7½c higher for good Yorkers and mediums; pigs 10c higher than above quotations.

Thorburn sold Hammond S & Co 128 av 174 at \$4.20.

McMullen sold same 75 av 168 at \$4.27½.

Underwood sold same 83 av 182 at \$4.27½.

Robb sold same 7 pigs av 80 at \$3.40.

Lovewell sold same 77 av 176 at \$4.23.

Roe & Holmes sold same 51 av 184 and 38 av 168 at \$4.20.

Davenport sold same 76 av 166 at \$4.20.

Eddy sold same 112 av 184 at \$4.20.

Judson sold same 32 av 207 at \$4.25.

Discher sold same 83 av 115 at \$4.15.

F. W. Horner sold same 79 av 159 at \$4.25.

Lamoureux sold same 79 av 169 at \$4.17½.

Pinne sold same 47 av 186 at \$4.20.

Parsons & H sold same 88 av 177 at \$4.25.

Bullen sold same 36 av 205 at \$4.25.

M Hauser sold same 73 av 164 at \$4.15.

Fox & Bishop sold same 55 av 178 and 77 av 215 at \$4.25.

Hogan sold same 69 av 167 at \$4.25.

Hauser sold same 67 av 196 at \$4.27½.

Cassey sold same 46 av 163 at \$4.20.

Lucky sold same 43 av 159 and 52 av 181 at \$4.25.

Harger sold same 66 av 170 at \$4.25.

Weidman sold same 67 av 167 at \$4.20 and 83 av 165 at \$4.22½.

Harwood sold Parker Webb & Co 149 av 184 and 12 av 166 at \$4.27½.

Horne & R sold same 114 av 176 at \$4.17½.

Wilson sold same 10 av 187 at \$4.15.

Murphy sold same 49 av 172 at \$4.20.

Weeks sold same 39 av 157 at \$4.20.

#### OUR BUFFALO LETTER.

East Buffalo, May 26, 1898.

Cattle.—Receipts of cattle on Monday last were 3,784, as compared with 3,144 the same day the previous week, and shipments were 2,596, as compared with 2,640 for the same day the previous week. The market opened slow and draggy, and remained so all day on good weight fat cattle, which were 10¢ to 15¢ lower than last week. Fat cows and heifers, and light weight good quality steers were in best demand, and did not show nearly as great a decline as heavy weight steer cattle. Exporters were out of the market, and the home trade had to be depended upon for customers, hence the difficulty of making sales of heavy weights. Bulls, oxen, stags, and rough fat steers were also lower. Stockers and feeders also showed a decline, with the lighter lots selling best. The best steers sold at \$4.80 to \$5.00, and fair to good at \$4.50 to \$4.75; fat smooth dry fed butcher steers of 900 to 1,150 lbs., \$4.30 to \$4.50; heifers, \$3.50 to \$4.45; cows, common to choice, \$2.50 to \$4.00; bulls, \$3.00 to \$4.00; stockers and feeders, \$3.90 to \$4.50. Since Monday values have held steady, with the feeling somewhat stronger. Quotations at the close on Wednesday were as follows: Export and Shipping Steers—Prime to extra choice finished steers, 1,400 to 1,450 lbs., \$4.80 to \$5.00; prime to choice steers, 1,300 to 1,400 lbs., \$4.65 to \$4.75; good to choice fat steers, 1,250 to 1,300 lbs., \$4.55 to \$4.60; good to choice fat smooth steers, 1,050 to 1,250 lbs., \$4.50 to \$4.55; green coarse and rough fat steers, 1,050 to 1,400 lbs., \$4.00 to \$4.35. Butchers Native Cattle—Fat smooth dry fed steers, 1,050 to 1,150 lbs., \$4.40 to \$4.50; fat, smooth, dry fed light fat smooth, 900 to 1,000 lbs., \$4.30 to \$4.40; light half-fat steers, \$4.20 to \$4.25; green steers, thin to half fattened, 1,000 to 1,300 lbs., \$3.90 to \$4.25; fair to good steers, 900 to 1,000 lbs., \$4.15 to \$4.35; choice smooth fat heifers, \$4.25 to \$4.45; fair to good fat heifers, \$3.90 to \$4.15; light thin half-fat heifers, \$3.50 to \$3.75; fair to good mixed butchers stock, \$3.85 to \$4.15; mixed lots, fair to choice quality fat cows and heifers, \$3.75 to \$4.25; good smooth well fattened butcher cows, \$3.85 to \$4.00; fair to good butcher cows, \$3.25 to \$3.75; common old shelly cows, \$2.50 to \$3.15. Bulls and Oxen—Export weight bulls, fat and smooth, \$3.90 to \$4.00; good fat smooth handy weight butcher bulls, \$3.80 to \$4.10; fair to good sausage bulls, \$3.40 to \$3.75; thin, old and common bulls, \$3.00 to \$3.35; stock bulls common to extra, \$3.00 to \$3.50; fat smooth young oxen to good lots fit for export, \$4.25 to \$4.50; fair to fairly good partly fattened young oxen, \$3.50 to \$4.15; old common

and poor oxen, \$2.25 to \$3.40. Native Stockers and Feeders—Feeding steers, good style weight and extra quality, \$4.30 to \$4.50; feeding steers common to only fair quality, \$4.00 to \$4.25; good quality yearling stock steers and calves, \$4.00 to \$4.75; stock heifers, common to choice, \$3.35 to \$3.75; Stock steers, cull grades and throw outs, \$3.90 to \$4.15.

Thursday cattle were steady and unchanged.

Sheep and Lambs.—Receipts, Monday, were 20,100, as compared with 8,800 the previous Monday; shipments were 14,000, as compared with 6,400 for the same day the previous week. The market opened active and steady for sheep, but lower for lambs than at the close of the week. About all offered were sold. As compared with last week Monday there was a decline of 10¢ to 20¢ on lambs, the best selling at \$5.65 to \$5.75 for clipped, while fair to good only brought \$4.75 to \$5.00; fancy wether sheep sold at \$4.20 to \$4.30, and choice to extra handy weights at \$3.90 to \$4.10; cull stuff, \$2.25 to \$3.75. Some very choice Michigan lambs brought \$5.15; and heavy exports \$4.80. The market closed steady. Since Monday the market has improved. There has been an advance on lambs, and sheep are stronger. Quotations on Wednesday were as follows: Clipped Lambs.—Choice to extra handy lambs, \$5.10 to \$5.20; fair to good, \$4.75 to \$5.05; culls and common, \$4.25 to \$4.75; heavy clipped lambs, \$4.65 to \$4.75. Clipped Sheep.—Good to fancy wethers, \$4.25 to \$4.35; choice to extra handy mixed, \$4.00 to \$4.25; good to choice sheep, \$3.60 to \$3.90; common culls to fair butcher sheep, \$2.25 to \$3.50; heavy native corn fed wether sheep of 110 to 125 lbs., \$3.85 to \$3.95.

Thursday the market was strong and higher. Handy lots, tops, \$5.20 to \$5.35; culls good, \$4.50 to \$4.75; heavy exports, \$4.65 to \$4.75; mixed sheep, \$4.15 to \$4.25; handy wethers, \$4.20 to \$4.40; culls to good, \$4.25 to \$4.10; heavy, 120-pound wethers, \$4.20 to \$4.35.

Hogs.—Receipts of hogs on Monday last were 27,170, as compared with 31,350 for the same day the previous week, and shipments were 19,760, as compared with 19,760 for the same day the previous week. The market opened at about steady prices on Yorkers and light grades with the close of last week, and higher on medium and heavy weights. Before the close all classes except pigs were stronger, and about everything desirable was sold. Yorkers sold at \$4.10 to \$4.15; light mediums at \$4.25 to \$4.30; choice medium heavy, \$4.40 to \$4.45; prime heavy, \$4.40 to \$4.45; pigs, common to good, \$3.50 to \$3.90 per hundred. Since Monday the market has ruled dull with a decline on light pigs, and medium and heavy weights about steady. Quotations on Wednesday were as follows: Good to choice light medium grades, 170 to 190 lbs., \$4.15 to \$4.25; choice and selected Yorkers, 140 to 165 lbs., \$4.05 to \$4.10; light Yorkers and pigs mixed, \$3.90 to \$4.00; mixed packing grades, 180 to 200 lbs., \$4.25 to \$4.30; fair to best medium weight, 210 to 260 lbs., \$4.35 to \$4.45; good to prime heavy hogs of 270 to 300 lbs., \$4.45 to \$4.50; roughs, common to good, \$3.85 to \$4.00; stags common to good, \$3.65 to \$3.75; 110 to 120 lbs., good to prime corn fed lots, \$3.70 to \$3.75; pigs thin to fair light weights, 75 to 100 lbs., \$3.60 to \$3.65; pigs, skips and common light and undesirable lots, \$3.25 to \$3.50.

Thursday the market opened steady, but closed 5 to 10c higher; Yorkers, \$4.05 to \$4.15; mixed, \$4.20 to \$4.30; medium heavy, \$4.35 to \$4.50; pigs, dull, \$3.50 to \$3.70.

#### CHICAGO.

Union Stock Yards, May 27, 1898.

Cattle.—Receipts for last week were 46,824 head, as compared with 46,065 the previous week, and 50,803 for the corresponding week in 1897. Receipts Monday were 19,792, as compared with 14,115 for the same day the previous week. The increase in the receipts made a weak and rather slow market on undesirable cattle, some of which were fully 10c lower, while really good cattle were steady to only a shade lower. Early a few good steers sold at a shade decline, but later sales were about steady with Friday's prices. Big heavy branded cattle averaging around 1,500 lbs., sold at \$4.60 as steady as at any time last week. One lot of fancy branded Iowa bred westerns that averaged 1,490 lbs., sold at \$5.20. Large numbers of export steers sold at \$4.75 to \$5.10; the dressed beef operators paid \$4.50 to \$4.90. Butchers' stock of all grades sold somewhat lower, but it must be remembered that prices on cows, heifers, and canners are yet ruling extremely high. There was little or nothing doing in the stocker trade, and a few stock steer calves sold at \$7; veal calves, \$5.75 to \$6.50. Cows averaged from \$2.85 to \$4.45; heifers ranged from \$3.50 to \$4.50. Up to and including Wednesday of this week receipts have been 38,429, as compared with 32,677 for the same week last week. Wednesday the market was active, with prices on anything desirable in the fat cattle line about steady; some heavy, coarse, and undesirable steers sold a trifle lower. Branded steers steady; a light lot to average 1,080 lbs sold at \$4.45, and a medium lot to average 1,325 lbs at \$4.55 to \$4.60. Top price of good natives for the week, \$4.90 to \$5.20, against \$5.25 to \$5.25 last week. All kinds of butchers' stock, also canners, lower than last week, in some cases 15¢ to 20¢ lower. Stockers and feeders somewhat stronger than last week; steer calves, \$6.50 to \$7.25; veal calves, \$5.75 to \$6.25.

Estimated receipts Thursday, 10,500; market slow with a slight decline on extra steers; others steady.

Sheep and Lambs.—Receipts last week were 61,829, as compared with 68,105 for the previous week, and 61,734 for the corresponding week in 1897. The market opened with 10,422 on sale, as compared with 17,293 the same day last week. Monday opened with an advance of 10c on sheep, and fully 20¢ to 25c on lambs as the result of a short supply. Clipped sheep sold at \$4.15 to \$4.25 for heavy weights and \$4.30 to \$4.



## Horticultural.

### INFORMATION WANTED.

To the Editor of The Michigan Farmer:

As we take your most valuable paper, will you permit me to ask you a few questions?

I have an orchard which has been in sod for a number of years, and not having been pruned, it became full of wood, and some of the trees were covered with moss and bark lice. I pruned the trees and scraped them with a hoe, plowed the ground, and sowed it to peas, intending to plow it again after the peas were off, then sowing to wheat and seeding to clover. Did I do right? Or would it be better to sow to rye and cut it for hay?

What will kill the bark lice and moss?

Will I lose the good of manure by plowing it down deep, intending to plow the ground again shallow for wheat? Or would I get better results by piling the manure and letting it rot, then top-dressing the wheat with it? Does manure lose any of its goodness by spreading and letting it lay in the sun some time before plowing under? Does it lose any of its goodness by heating?

Please answer through your paper and greatly oblige,

JOHN POOLE.

We think sowing wheat after the peas are off would be unwise. Of course, we do not know the condition of the soil of your orchard, but it cannot be very rich. To take a chop of wheat off it after a crop of peas would take too much out of the soil to allow the trees to do well. It would be better to sow to winter rye, and when it has got some size pasture it off with hogs or sheep, then next spring after it has got some growth plow it under. The soil should, after the length of time it has been in grass, get thorough cultivation, and for this purpose we would recommend that some cultivated crop be put in after the rye. Corn or potatoes would be better than wheat, because they would allow you to cultivate the soil thoroughly. If you wish to manure the land, the best time would have been before the peas were sown, and then plowed the manure under. As it is, you could give the land a dressing of manure before the rye is put in. If you do not wish to do that, then haul out and spread the manure during the late fall and winter, leaving it until spring, and then plow it under for a corn crop. From the fact that your trees were covered with moss, we would suggest that some hardwood ashes or lime be added to the barnyard manure, or sown over the ground separately. On most crops you will get better results by drawing out and spreading the manure while fresh, or comparatively so, than by piling it in heaps and allowing it to rot. If left in heaps, they must be small ones, or they will heat, and the most valuable elements of the manure be lost. In putting manure in large heaps, the only safe way is to keep it covered, work it frequently, and add dry earth or land-plaster to prevent its heating. For special spring crops, such manure, well rotted or composted, is a necessity. But for ordinary field crops this is not necessary. It entails much extra labor. The manure drawn out and spread on the field during the late fall and winter is where it will do the most good. The soil will absorb its most valuable elements, and, if on level or slightly rolling land, nothing will be carried off by the rains. We doubt if anything valuable will be lost by this course, even on the lightest soils, as the soil will retain everything, and the water from rains or melting snows will be perfectly cleansed before it has penetrated many inches into even a porous soil. To test this for yourself, allow some dirty water to soak through a few inches of sand, and see how thoroughly its impurities have been absorbed.

To the question regarding manure spread and left to lay in the sun some time, we reply that we think some of its value would be lost, especially if it was during a very dry time, with high temperature. But we have noticed in pastures, during the heat of summer, that around the droppings of animals the grass would be green and growing, no matter how brown and burned it might be in other parts of the field. We judge from that fact that the soil absorbs about all the fertilizing elements of the manure, even in the driest time, and that but little is lost. This, in a general way, answers your questions regarding the

handling of manure, but you must give due consideration to the conditions obtaining on your soil before putting them in practice. There may be good reasons why, in your case, they should be modified.

As to what will kill bark lice and moss, for the former use kerosene emulsion, prepared as follows: Two gallons kerosene oil, half pound common brown soap. Cut the soap into small pieces or shavings and dissolve in about two gallons of hot water. While still hot, pour in the kerosene, and with the hand pump or syringe, pump it back and forth until a thick cream-like substance is formed. In this condition the kerosene is divided into very minute globules, and will be readily diluted or suspended in water. Then add ten gallons of water to each gallon of the emulsion, mix thoroughly, and apply with a spray pump.

Moss grows only where there is a good deal of moisture and but little sunlight. If you have pruned your trees well, so as to admit the rays of the sun, the soil under the trees will become dryer and the growth of moss will be prevented. Adding a little lime to the manure will also aid in counteracting its growth. If, however, it still continues to grow, then apply a coat of thin whitewash to the trunks of the trees.

### CUTTING OR BREAKING ASPARAGUS ROOTS.

To the Editor of The Michigan Farmer:

Does it injure an asparagus bed to break off the shoots instead of cutting them? If so, how and why?

SUBSCRIBER.

In our experience, and from observation, we should recommend cutting the shoots rather than breaking them off the plant. The mere act of breaking in itself we do not think would injure the plants; but it must be accompanied by more or less violence, which will be injurious. Then the shoots would require to be cut again before being sent to market, for broken ends would neither look nice nor neat in a bunch of asparagus. However, we have never seen shoots broken off, and perhaps there may be less objection to the method than generally believed. What has been your experience? Or what would be gained by breaking instead of cutting? We confess, we can see no good reason for breaking rather than cutting.

For the Michigan Farmer.

### FRUIT NOTES.

One of the diseases which may easily escape the notice of the amateur at first is the orange rust on the raspberry. This may be seen on the leaves of both the first and second year's growth. It is to be found rather early in the season, and when once discovered is easily detected afterwards. The foliage of an infected plant lacks the dark, rank appearance of a healthy cane, and has a sickly, yellowish look. The leaves are smaller and do not open out as fully as they should; especially is this noticeable on the young growth. A closer examination of the leaf will show minute yellow grains on the under side and along the edge, which multiply till they completely cover the under surface and make a broad margin around the upper side. There is no mistaking the disease then, as the bright color is too conspicuous to be passed by. If one cares to use a microscope he is liable to discover evidence of the disease where it was not expected, as healthy plants soon become infected if near one that has the rust.

The only practical way for getting rid of the disease is to dig up the infected plants and burn them. This should be done promptly, as the disease spreads rapidly. Spraying with Bordeaux mixture is recommended as to some extent a preventive, but of little or no value after the disease has once taken hold. The disease apparently affects the whole plant and comes up with the new growth in the spring. For this reason it has been found necessary to destroy the whole plant, root as well as branch. The sooner this is done the better, if the plants around it are to be saved.

Some horticultural writer has lately found out that potash is good for promoting a healthy growth of wood, but has little effect on the fruit. This sounds well in theory. Wood requires considerable potash and fruit has only a little in its composition. But the practical fruit-grower knows better. He values potash highly as a fertilizer, not only for the sake of the tree or

plant itself, but for the effect on the fruit, which should show an improvement in size, color and amount.

Two years ago this spring we applied unleached wood ashes to some raspberry bushes, scattering around the hills at the rate of five bushels to a hundred plants. Two rows of a hundred hills each were left without the fertilizer, also half a dozen hills along one end of each row. No difference was noticed that year, but there was a very marked difference the next season. The canes were stronger and more erect, the fruit was larger and better, and the yield was much greater. The effect on the cones is more noticeable this year than last. Varieties which have formerly shown troublesome trailing habits now stand up fairly well. The soil is mostly a heavy loam, though a small part of the field at one end has considerable sand mixed with the clay. The improvement was the greater upon the lighter soil, as was to be expected.

In using ashes results should not be looked for too soon. The potash which they contain is not available for plant food till it has leached out and mingled with the earth, and this may be a slow process if the season is dry. The effect is obviously more prompt with garden plants and such vegetation as has its roots near the surface than with bushes, and the difference is still greater in the case of trees.

It may be of interest to note that ashes, although the most commonly known source of potash, really contain a small amount of that element. Unleached wood ashes contain from two to eight per cent, and leached from one to two per cent. Kainit, which has lately been coming into extensive use, contains 12.5 per cent, nitrate of potash (saltpetre) 43 to 45 per cent, sulphate of potash (high grade) and muriate of potash about 50 per cent each. From this it will be seen that kainit has twice the strength of the average grade of ashes, but is much inferior to the other three forms of potash, which is a matter of considerable importance when the buying of fertilizers is under consideration.

As usual the apricot makes a large promise this spring. The tree is worth planting for the sake of its mass of blossoms so early in the season. As the frosts did not kill the fruit at the time of setting some of it may be saved, provided the curculio can be kept in check. It is unfortunate that there is no variety of this fruit that blossoms late enough for us in Eastern Michigan, and it is still more to be regretted that there is not some better means than now known for getting rid of the curculio. For these two reasons the apricot does not promise much with us. The tree itself is hardy enough.

One of the plants which yet receives considerable advertising at the hands of nurserymen is the June berry. Like many another novelty it might be worth planting if we did not have so many kinds of fruit that are better. It may be of value in some places, but we find that those who have tried it do not speak highly of it. The bush is easily transplanted and grows readily, producing a large quantity of purple berries of an inferior flavor.

F. D. W.

### NOTES FROM THE FRUIT BELT.

The heaviest crop of fruit ever known in this country along the Lake Shore is already assured. Nothing will be known as a half crop from the currant bush to the peach tree.

The anxiety expressed last summer over a dry season and poor prices is already dispelled, and the transportation companies have taken up the task of how best to convey this produce to market. There are already two boat lines established, with two boats scheduled each way daily between the Twin Cities and Chicago; also as equally good accommodation on the Milwaukee route.

The box factories situated in Georgia, Alabama and Tennessee have had agents among the fruit growers holding out special cut prices, and crates in

the flat are coming in from the South by the railroad. Notwithstanding this, the factories in this vicinity, numbering five and eight, with a force of 50 to 100 men each, are running double time, and some mills never stop short of seven days in the week.

The country presents to-day one of the prettiest views ever witnessed by an admiring tourist, from the various hues that are shown by the apple and peach orchards that almost resemble the rainbow, blending one color in with the other with an ever-changing background as the fruit farms are passed.

The strawberry crop will come this year from new vines only, owing to the drouth of last summer, but when it is remembered that every farm has from two to ten acres in new vines, the enormity of the produce can be at least conjectured. The West Michigan Nurseries, with 913 acres given up to growing of trees and fruit, will have at least twenty-five acres of strawberries and other large farms in nearly every township report each from ten to fifteen acres of new vines.

It is berry picking time when the country is overrun with tramps. The season of strawberries lasts, at least, from four to eight weeks, and pickers can often average from \$3 to \$4 per day and then only work part days. This occurs when berries are above the average, when only eleven berries are required to fill a quart box. But despite the big money made by the picker, the berries must be put on the market at a certain hour of the day or they are lost.

Not unfrequently a farmer will realize a net profit of \$100 on each acre of strawberries when the prices are reasonable. In the midst of the shipping season Monday nights of each week note the big output by boat lines, express trains and special fruit trains. When the season is at its best it has been estimated that the returns from one Monday night's shipment from Benton Harbor and St. Joseph would easily foot up to \$22,000.

The returns for blackberries and raspberries have so often been unprofitable that the production in the vicinity will vary from year to year. With wheat at a handsome price and potatoes on the rise, not a few farmers have plowed their vines, and will realize this year in grain.

The lateness in season this year, which means, for Michigan, two weeks, at least, is only an advantage to the Michigan strawberry growers.

The Southern and Illinois crop will have been exhausted when the delicious berry from Michigan is in its best demand.

Following on the big fruit returns, the attention of the farmer is directed this year to the beet sugar factory. It is estimated that no soil in Michigan is better adapted to produce the saccharine of this produce in abundance than the soil of this vicinity. The factory from the start will give employment to not less than 100 men, while the farmers will have a ready market for their beets and at an already specified price.

J. N. REED.

Bordeaux mixture is recommended as a specific for rust on the strawberry. When setting out plants in the fall, dip them into the solution. After they start growing give them a good spraying. In the spring give them another. There are several varieties of the strawberry which would be very valuable to growers except for their tendency to rust. If Bordeaux mixture will prevent this, these varieties will be utilized by many growers.

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## The Poultry Yard.

### IT IS ROUP IN ITS WORST FORM.

W. Benedict, Orleans, Mich., writes: "There is something the matter with my turkeys and chickens. Their heads swell up, their eyes swell shut, and they cannot eat." He says the disease commenced last February, and is getting worse.

If this disease has run in our correspondent's yards since last February, we wonder that he has any fowls to be sick by this time. His fowls have the roup in its worst form, and it will be hard to cure, it has run so long. But we will give the treatment, and if followed it will help those that are not sick: The first thing to do is to remove the sick birds to a warm, dry house, bathe their heads with a solution of chlorate of potash and warm water, equal parts of each, until the nostrils are opened and the eyes are relieved. Remove the dry discharge from the eyes and nose. If the discharge from the nostrils is excessive, camphorated sweet oil should be injected into the nostrils, with a small oil can, either from the outside, or through the slits in the roof of the mouth. If the throat is affected, paint the same with nitrate of silver, using a small camel's hair brush. Give in the drinking water a solution of one-half carbolate of lime and one-half of sulphate of magnesia, ten drops to a pint of water.

In order to cure this dreaded disease one must exercise the utmost care to keep the birds in a warm, dry house, and see to it that they get the treatment as prescribed. If they are let out to run at large it is no use to try to treat them, as one cannot attend to them unless they are where they can be caught at any time. It would also be a good thing for the birds if they were given some kind of poultry food to stimulate them, and they should not have any whole grain while they are being treated.

This is the most dreaded disease known to poultrymen, and is one of the worst to cure, as often it is not attended to until it becomes so bad that the whole flock is affected, and then the breeder begins to wonder what is the matter. It is caused by exposure to the elements, and turkeys are very apt to have it, as it is very hard to keep them housed at night, as they prefer to roost in trees or on fences. When they get it they contaminate the drinking water, and the rest of the flock soon have it as bad as they before the breeder knows it. But if attended to at once, and treated as suggested above, they can be cured. The treatment must be attended to strictly, however, or it will be of no use.

C. L. HOGUE.

For The Michigan Farmer.

### SOME COMMON DISEASES IN YOUNG CHICKS.

Now that breeders and fanciers are busy caring for young stock we have to look out for the common ailments that afflict the chicks, with a watchful eye. An ounce of prevention is worth the proverbial pound of cure. The lice, of course, should be looked after. I seldom look for them, and take it for granted they are there, and sprinkle each chick all over with Death-to-Lice, rubbing well into the soft down, and cover up well in an old basket before I return to the hen. I treat the mother to a dose of powder while the chicks are getting the benefit of their treatment. After a week or so I go over both with powder and rub the necks and heads of chicks with thick sour cream. This shows up the other variety of head lice, bluish-gray, sticking like ticks into the tender flesh. They are not affected by the general application of powder, but cream will cause them to be visible, and they can be picked off easily. Lard will often leave bad effects on the chick, and cream will all be gone in a couple of hours. But very few chicks grow to maturity without being injured more or less by these pests, invariably on head and neck, never on the feathers. A pitiful chirp from chicks that are warm and well-cared for is a sure indication of head lice.

Indigestion is the next trouble, and the whole sequel of bowel troubles follow on in close connection. Plenty of grit, warm quarters, not too many under the hen, or crowded into the brooder. Cold nights, damp quarters, drinking too much cold water, over-feeding,

improper food, all help to bring on this trouble. Sunshine and warmth, cut oatmeal for feed, water dish removed after all have drunk, will help digestion. Don't feed the chicks because they chase you; feed at regular intervals, early in the morning and late at night, and three times between—five times in all—and if you don't feed all they can get down no harm is done. Their crops are small, and when they have over-crowded them they cannot vomit like babies and get rid of the surplus. If bowel trouble comes, warmth, grit, scant feeding, and a teaspoonful of tincture nux vomica to one quart drinking water, is the best remedy.

The next disease, when the chicks are three weeks old, is gapes. Pushing a feather down the windpipe a couple of inches, first dipping in a mixture of sweet and kerosene oil, will generally loosen the worms, so they can be squeezed out by upward pressure of the thumb and forefinger. If one prefers to give medicine, a teaspoonful of powdered copperas to each 100 chicks (dissolved in feed), once per day till they are well feathered, will prevent gapes. Or semi-annual plowing of the yards will, after a few years, drive away the disease germs.

Pip or chirp I have no remedy to recommend for, except warmth. I have never succeeded in curing a case, and if any one else has he will please arise and explain the method. It seems to be a throat or catarrhal trouble; but does not seem to be anything like roup, although due to cold or dampness.

Hillsdale County. PRISCILLA PLUM.

For the Michigan Farmer.

### POULTRY COMMENTS.

One of the difficulties in raising chickens is a practical and easy solution of the watering problem. There is nothing more important to a vigorous, healthy growth than a plentiful supply of pure water in reach of the chicks at all times. Those who have been attempting to raise pure-bred stock do not need to be reminded of this important feature. Not that the well bred fowl is any harder to produce than the scrub, but with them you will notice the difference quicker; with pure breeds you have in mind a certain ideal, or at any rate, such should be the case. With the mongrel there is nothing of the kind, hence, as a natural consequence, one will notice that something is failing to produce the most satisfactory results with the former quicker than with the latter. In the end, I doubt if anything will be found to excel the well known earthen fountain which works on the principle of the siphon. But, like so many other convenient and useful things, it requires cash to buy them. Besides the price is a little bit high, more than the average farmer is inclined to invest. I can not recommend anything that will excel the regular commercial fountain, but a very good substitute can be devised by making use of a common crock and a low pan or dish of some sort. The pan should have a side an inch and a half or two inches high and a bottom just large enough so that the crock when inverted will just nicely fit down into it. The sides of the pan should rise from the bottom obliquely, so that there will be a little space between the top of the dish and the crock, so that there will be ample room for the fowl or chick to put the head in to drink. If the pan will hold two inches of water, bore a small hole through the side of the crock about one and one-half inches down from the top. Fill the jar with water, place the pan over the top and quickly invert. If the jar is air-tight, the experiment will work successfully; the pan will fill with water until it reaches the little hole in the crock, where it will remain until the water has been used out. Such a simple arrangement will keep the water comparatively cool and fresh, and requires but very little skill to make.

I had quite a little trouble this spring in trying to keep water in the brooders for the chicks; it was quite impossible to keep water before them for any length of time in anything like a wholesome condition. Chick fashion, as soon as the water was placed before them the first thing that would be done was for all to get into the dish and with the exception of the little that they managed to drink, all was spilled out on the floor, keeping it in a damp and very unsatisfactory condition. I finally hit on a little plan, involving the fountain principle, that practically remedied the difficulty entirely. I took a common baking powder can and pierced three little

holes in the rim, which was about a quarter of an inch down from the top; I next selected a small but suitable dish for the base, filled the can with water, placed the drinking dish over the top, and inverted. The result was a very good fountain on a small scale, although one that answered the purpose in a most satisfactory manner.

These little fountains will be found of special value where one is raising poults and ducklings. With either of these it is of considerable importance that they should be kept thoroughly dry for the first few days of their life; after that the danger is not so great. For something that will answer the purpose to perfection, nothing will surpass one of these fountains, provided it is properly constructed and set on level ground. At any time the poult or the duck can get all the water that it needs, but still it is quite impossible for them to get into the water sufficiently to seriously wet their plumage. Turkey and duck raisers do not need to be told that a dampness is what produces cramps, especially during chilling weather.

\* \* \*

Some time ago I noticed that some one was inquiring in this department the number of hens that was safe to use with a single tom. I do not recall just what the reply was, but if I remember correctly, it was something like six or eight. From practical experience I could not answer the question, but I have always had a theory that it would not be unreasonable to expect good results with the ratio of twenty hens to one tom. I believe this idea will be borne out by the experience of those who have raised turkeys on a large scale. One thing that has strengthened me in this belief was a little instance that occurred last fall at shipping time. A gentleman in a neighboring county wrote me that he had forty-seven turkey hens and wished three toms to mate with them. As he took that number, and seemed to consider these quite sufficient, I could not help but think that my twenty to one theory was not far out of the way. This breeder's ratio was nearly sixteen hens to one tom.

C. P. REYNOLDS.

### EGGS IN COMMERCE.

According to the New York Sun, the exportation of eggs from one country to another has become a large item of international commerce. The case of Denmark is given as an example. Her trade in eggs with foreign countries, chiefly with England and Scotland, has grown enormously. Twenty years ago the annual Danish export of eggs was 600,000; now it is reckoned at 110,000,000. In the same period the importation of eggs into England has increased tenfold, but only a part of the whole number come from Denmark, the two other egg exporting countries from which England draws its supplies being Holland and France. France exports to other countries 600,000,000 eggs in a year, and Italy exports 500,000,000 eggs in a year, chiefly to Austria and Germany. The poultrymen of the United States depend chiefly on the enormous home market, and they have rivals in the export of American eggs in the Canadians, Canada ranking next to France and Italy, and ahead of Denmark and Holland as an egg-exporting country. Canada exports to other countries, 300,000,000 eggs in a year. For the fiscal year of 1895 the treasury figures give the total exports of American eggs to foreign countries at 151,000 dozen, which is equivalent to 1,812,000 eggs. In the fiscal year 1896, however, the total exportation of American eggs increased to 328,000 dozen, or 3,936,000 eggs, a little more than twice as much. The export figures for this year indicate a still further increase, and a market for American eggs is likely, therefore, to be secured in what the political campaign orators are accustomed to call, somewhat vaguely, the near future. It is a somewhat curious fact that the weight of eggs is materially larger in northern than in southern climates. Canadian eggs, for instance, are heavier than those shipped from the United States, and eggs in the northern states of this country are heavier than those from the south.

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### GRANGE WORK.

One of the most inspiring and sensible articles we have had occasion to publish in these columns, is that appearing this week under the title "Lecture Work in the Grange," and signed by "H." We commend its careful perusal to every Patron in Michigan.

There are two points brought out in the article that we wish especially to call to the attention of all members of the Grange.

First, "H" clearly states that the fundamental object of the Grange is Education. As he puts it, the Grange is not a purchasing agency, nor a legislative reform club, nor a ritualistic fraternity, but a school. Not that the Grange can not purchase supplies to advantage—it is successfully doing that; not that it should not endeavor to influence legislation—it has done that

more successfully than has any other farm organization; not that fraternity in the Grange means nothing—every true Patron knows better than that. But all these are but means to an end, they are methods, they are classes in the Grange school. In other words, the Grange does not exist primarily for its own sake, nor for the sake of the material welfare of the farmers. The whole excuse for the Grange is the education of the farmers. This must never be lost sight of. This supreme object of the Grange is splendidly set forth by "H."

Second, if the educational work of the Grange is its most important work, if the Grange is in reality a school, then it follows that "H's" argument for giving the Lecturer the "right of way" is perfectly logical. Too often the Lecturer's hour is crowded out, or left until everybody is tired out. It is almost pathetic to read in some of our Grange news of a literary program, as if it were a special feature of the Grange work—an extraordinary achievement. This is not often the case, but it is a fact that the Lecturer's hour and work are too often subordinated to the regular routine. This should not be tolerated. Let no one say that we would do away with the lesser features of Grange work. We plead simply that things shall be put in their places—in right proportion. Let us remember the great purpose of the Grange, and bend every energy to bring it about. Elevate the Lecturer and the program to a prime place in every subordinate Grange. On our Grange flag inscribe the motto that stands at the head of these columns, "The farmer is of more consequence than the farm, and should be first improved." Nail this flag to the mast head of our Grange ship, and then treat the forces of ignorance, superstition, prejudice and wrong, as Dewey treated the Spaniards at Manila.

### GRANGE NEWS.

SILICA GRANGE, NO. 546.  
At the last meeting three candidates were instructed in the Grange work, followed by the usual harvest feast and a friendly chat. Two applications for membership.

Muskegon Co. CHAS. HORTON.  
WILLIAMSBURG GRANGE, NO. 649.  
is now fully reorganized, with 42 new members. Eight of them were formerly members of that Grange, four of other Granges, and the others new members. Master, H. K. Beecham; Lecturer, T. E. Carpenter; Secretary, A. H. Crisp, Bates.

PALMYRA GRANGE, NO. 212.  
May 6 third and fourth degrees were conferred, followed by a feast. Sister Keffer continued work on parliamentary laws. Bro. Cole gave a good talk on the proper use of the amendment.

Lenawee Co. SMITH EVERETT.  
BALTIMORE GRANGE, NO. 472,  
held a successful meeting May 15, with a large number present, and instructed seven candidates in the third and fourth degrees, after which a recess was announced and all enjoyed a grand feast. We see nothing but success for Baltimore Grange.

Barry Co. G. R. BOWSER, Co. Deputy.  
NORTH ADRIAN GRANGE, NO. 721,  
conferred the third and fourth degrees on five candidates May 20. Ice cream and cake were served.

Members from Wolf Creek and Adrian Granges spoke encouraging words to us.

It was the best meeting and largest attendance of the year.

Lenawee Co. MRS. H. R. L., Cor.  
MONTICALLY GRANGE  
met May 16; attendance good for the busy time. Question for discussion, "Is it Practical to Teach the Natural Sciences in the District School?" Ans., yes. Monticall Co. Pomona Grange meets in Greenville June 2, with Monticall Grange.

Monticall Co. J. M. P.  
LICKLY'S CORNERS GRANGE, NO. 274,  
is still moving forward. May 11 conferred the first degree upon one candidate. At our last regular meeting we had a very lively discussion and literary program. We are looking forward

to the first Thursday in June, when we expect to entertain the County Pomona; all Patrons are invited to attend.

Hillsdale Co. ADELBERT WARD, Sec.  
PENINSULA GRANGE, NO. 663.

May 6 we received five applications for membership from young people in our neighborhood who are anxious to help in our Lyceum.

The following debate took place at the meeting: "Resolved, That the bachelor maid is more useful and ornamental than the bachelor man." After a very able discussion the question was decided in the affirmative.

Grand Traverse Co. LULU DANA.  
SOUTH BOSTON GRANGE, NO. 175.

May 14th we had a good attendance. The third and fourth degrees were conferred on candidates, after which followed a program including a very interesting paper on "What is a Woman's Club?" read by Sister Ida English. All then marched to the dining-room, where ice cream and cake were served. Many visitors were present.

J. S. TAYLOR, Cor.  
WOLF CREEK GRANGE, NO. 708,

met May 14; had a lively discussion. Subject, "Uniformity of school textbooks." Some seemed not to fully understand the subject; thought it would cause more expense to Patrons by taking a vote. The majority were in favor of adopting the system.

Are preparing a memorial program for the evening of May 23; an open meeting will be held.

Lenawee Co. MRS. M. BRAZEE, Cor.  
ROME GRANGE, NO. 293.

May 14 the third and fourth degrees were conferred upon 18 applicants, finishing with a feast, at which 130 people were fed. Visiting members from West Adrian, Wolf Creek and Cadmus Granges were with us. One old member was reinstated, which makes Rome Grange 99 members, and one more application in. A good program was listened to.

DORA L. DOWLING, Cor.  
Lenawee Co.

JOHNSTOWN GRANGE, NO. 127,  
held an open meeting Saturday afternoon, April 23, with a large attendance, many outside the gates being present. Meeting opened at 1:30 p. m. sharp, with a song by the Grange choir, after which a splendid program was successfully carried out.

Our next meeting, May 21, will be a meeting to make arrangements to purchase binding twine and to discuss the time for holding a Patrons and Farmers' county picnic for Barry county.

Barry Co. GEO. R. BOWSER, Cor.  
CHARLOTTE GRANGE, NO. 67.

At our last meeting discussed the question "To what extent is the development of this country and its increase in wealth due to agricultural pursuits." The general opinion was that the wealth of the country was due to agriculture more than we can really tell, and that all other business springs from the agriculturist and his needs, and that we are in a measure to blame for being underlings to a few millionaires; also that we, as farmers, were head and shoulders above all others, and without us they could do nothing.

Eaton Co. C. HOFFNER.  
MONTOUR GRANGE, NO. 49,

mourns the loss of Bro. John Schrambling, who died at his home in the township of Climax, Kalamazoo Co., April 13, 1898, aged 73 years. His death was the termination of a long and painful sickness, which he bore with fortitude becoming a man, a Christian and a Patron. Bro. Schrambling has been a tried, true and faithful member of Montour Grange for nearly a quarter of a century, and enjoyed the entire confidence, respect and love of our members. Appropriate resolutions were passed.

Kalamazoo Co. ELLA ROGERS, Cor.  
HARBOR SPRINGS GRANGE, NO. 730,

met May 14 with an unusually large attendance. Worthy Master Budlong, of Pioneer Grange, was present to assist in making arrangements for a meeting of all the Granges in the county May 21; conferring third and fourth degrees in the forenoon, picnic dinner, and in the afternoon a literary program, in which all the Granges present may assist. The evening will be used in perfecting the organization of a Pomona Grange, conferring fifth degree, etc. Bro. E. B. Ward, of Charlevoix, expects to be present at that time.

MRS. ELLA MORRICE, Asst. Cor.  
EMMETT Co.  
EASTPORT GRANGE.

Our meeting of April 21 was very good. We had a bee, replacing the dead shade trees on our grounds. Had supper in the hall, and our regular business meeting and program.

May 5 we had another bee, the brothers working still further on the grounds, and the sisters fixing up the hall.

Our people are just as busy in the winter as in the summer, and we have to make great effort to keep up interest in the Grange, but we hope there is a better day coming when we shall have larger membership and more earnest work.

Antrim Co. W. J. OLMSTED.  
WINDSOR GRANGE, NO. 619,

had for program April 15 what our lecturer called a "Novel program." It was a change from the ordinary, was amusing, and besides bringing out the artistic (?) talent of our members, familiarized us with the titles of popular books.

Three candidates took the first degree April 29, after which we had quotations and two good recitations. We are hardly getting as much benefit from the traveling library as we would in a less busy season of the year. We are comfortably located in the W. R. C. hall, and are anticipating both pleasant and profitable meetings for the future.

Eaton Co. A. J.  
MADISON GRANGE.

Meeting May 20. In accordance with a suggestion of Worthy Master Horton, on account of central location, it was voted to invite an exhibition of tools and implements at Madison Grange hall with picnic dinner, as at other Grange gatherings. There will be matters of interest to the sisters, as well as a literary program. Date to be announced at the meeting of the County Grange at Adrian Grange hall on June 2.

Our Worthy Lecturer, Sister Harwood, always calls the roll, which is expected to be responded to with a quotation or sentiment. Those who can not so respond answer present. The hall was neatly decorated with flags and bushels of flowers, and the program was given to memorial exercises. Many young people were invited in, and some assisted on the program.

Lenawee Co. E. W. ALLIS.  
HARMONY GRANGE

gave the third and fourth degrees, with the usual feast, to a class of six, and reinstated one Saturday evening, May 14. Several members from Talmadge Grange were present.

Mrs. Wilson read an interesting essay entitled "Our Fore-Mothers." We will celebrate Children's Day; the date will be decided at the next meeting, which will occur on the evening of June 4.

Appropriate resolutions on the death of Mrs. John R. Brown were passed. Although ailing for about three months Sister Brown was still able to be about the house, and when the summons came she passed through much suffering to her final resting place. Our dear friend was an old settler, and known and loved for many miles around. She was always kind to the children and made home pleasant and cheerful, but the vacant chair is there by the fire-side, and her presence will be missed by all.

Kent Co. MERTIE PRESTON.

### JUNE TOPIC.

ABOUT PARLIAMENTARY USAGE IN THE GRANGE.

Question 1.—Should farmers understand parliamentary law and usage?  
Question 2.—To what extent should the Grange be conducted on strict parliamentary rules?

This topic is one that has received more or less attention in subordinate Granges and much progress has been made in conducting meetings in a proper and dignified manner, but it must be confessed that a majority of the members, and even a majority of those who have occupied the master's chair, are woefully ignorant of parliamentary usage and are sadly deficient in the essential qualifications of an easy and dignified presiding officer for any public meeting.

The first question touches the point as to whether farmers should aspire to positions of prominence and honor in the communities where they live, or should be content to take a secondary place and be directed in public affairs by men who represent other classes in society. No farmer can come to the front in this connection unless he has the qualifications of a presiding officer, and there is no good reason why more farmers should not prepare themselves for this position. It is possible that farmers may be lacking more in this direction than in most others.

The second question brings the matter of parliamentary practice into the



farmer's school, the Grange. While it is true that many Granges are conducted on parliamentary rules, there are very many that go wide of the mark, and the members have but little knowledge of how to introduce resolutions, make motions, present amendments, lay the question on the table, take it up again, and so on through the common forms of parliamentary usage. While a Grange just organized may have some excuse for not closely following parliamentary rules, there is no excuse for any Grange that has been organized more than one year, in conducting the meetings in a slipshod, careless manner. Much greater progress would be made in Grange work if all the meetings were conducted according to parliamentary rules and opened and closed on time. It is not necessary to get "cranky" over this subject, but it should be studied and discussed until it has in a measure become familiar to all the members. Reference books, Parliamentary Rules in the Digest, and Cushing's Manual of Parliamentary Law. No report is called for on this topic.

#### LECTURE WORK IN THE GRANGE.

It has been aptly and truthfully said that the prayer meeting is the spiritual thermometer of the church. It may be just as truthfully said that the Lecturer's hour is the mental thermometer of the Grange. And without in any way belittling the work of the other officers, it may safely be asserted that upon no other officer does the responsibility for the real success or failure of the Grange rest as it does upon the Lecturer. For what is the supreme mission and work of the Grange? It has many lines of work; but in the Grange, as well as in all other orders, one object is paramount. The Grange, then, it seems to us, is not primarily a co-operative purchasing agency; not an instrument for the securing of just legislation for the farmers; not a ritualistic secret society of farmers. It is all of these in a measure. But it is, or should be, something more. Is not the chief object of the order this? To elevate the intellectual and social life of the farming community? To bring to our farm homes and our farm life as much as possible of the social and educational advantages of the city? To place the farmer and the farmer's family more nearly on a level with his city brother and his family in those things which raise us above the animal? We believe this to be the true mission of the Grange.

And we believe that Subordinate Grange which lives up to this ideal will be the successful and enduring one. The Grange Lecturer who catches the idea that she is to be the leader and director of the intellectual as well as the social life of the community—this Lecturer, we believe, is the one whom the members will rise up and call blessed. We use the feminine pronoun because we think the office one a woman is best calculated to fill.

We speak of bringing to the farm the intellectual and social life of the city. What part of this life is it the thinking farmer and farmer's wife desire? Not progressive euchre and pedro parties; not fancy balls; not the theater; not that shallow thing called society. But the sermon and lecture of brainy men and women, and most of all that daily contact with other minds which polishes and brightens even as does the rubbing together of the metals. Bitterest thing of all to many a farmer is the thought that we keep our eyes and our minds both fixed upon the soil we till until we do literally become "clodhoppers." Get the farmers together as often as possible.

THE GRANGE IS THE BEST AGENCY yet in existence for this purpose. Get them together in the Grange. Get them to think on the questions of the day, and get them not only to think but to share their thoughts with others.

Whatever else you do in the Grange meetings, give the Lecturer's hour the right of way ahead of everything. If degree work crowds, hold some special meetings if necessary; but do not deprive the Lecturer of a minute of time. We think there is time in our meetings for all of the work, and sometime, if the editor will permit, we are going to give a little experience along this line. But you cannot afford to drop your program even for one night for degree work or anything else. And now as to the program, to quote that badly worn phrase, there is a vast difference between

#### BEING GOOD AND BEING GOOD FOR SOMETHING.

We have attended meetings even of Pomona Granges where the programs were good without being good for anything at all. In other words, they simply amused and entertained; there was nothing instructive, nothing of permanent good in them. Let us make our programs good for something.

The ideal Lecturer must have three things: Some education, much good judgment, and unbounded patience. The need of this last quality is why we think a woman best fills the office. Let the Lecturer then think of the Grange as a school and herself the teacher, and let her study the pupils. Paul speaks of spiritual babes who must be fed with milk and not with meat, because they are not able to bear meat. There are those in every community and in every Grange who have added to what early education they may have had the education gained by reading good papers, books and magazines. They are strong men and women intellectually. There are those in every community, and presumably in every Grange, who, from lack or neglect of these things, have remained intellectual children. The wise Lecturer will provide this latter class not only such work as they may be able to do, but also provide something to please them in the program. But the other class demand meat and should have it. And the

GRANGE THAT SUBSISTS ON A MILK DIET of light, select readings, humorous recitations and sentimental songs will be an intellectual babe as long as it exists.

While the Lecturer should aim to avoid this, she need not, and should not, shoot over the members' heads. They may not appreciate Emerson, Browning or Ibsen. But they will probably appreciate Longfellow, Lowell or Irving. They do not really need a very intimate knowledge of Grecian or Florentine history, but they ought to know the principle events in the history of their own country.

#### TO CONCLUDE:

Make your best, your very best, timber into Lecturers; make your Lecturer's hour the most important part of your meetings. Give it the "main track" at all times. Make it instructive and useful. Read and discuss good literature. Study and talk about the civil government, history and geography of our nation and of our State. Have the current events of the weeks between your meetings read in a condensed form and discussed. They will be history in a year or two. Give some time to the excellent topics sent out by our National Lecturer. Have good music and plenty of it. A few good recitations and readings. Call the roll of members and let them respond with quotations. In short, make your Grange deserve to live and grow and it will be sure to do both.

Lenawee Co. H.

#### FREE TEXT BOOKS.

The following is part of a communication from Supt. A. S. Whitney, of Saginaw, E. S., to the "Moderator," giving the experience of the Saginaw schools with free text books. It is well worth careful reading.

#### ADVANTAGES.

1. The free text-book system reduces the cost to the lowest possible figure. In support of this I submit from the records of the secretary and treasurer of the board of education the following table showing the various items of interest in connection therewith since the adoption of the system in 1885:

Year.	Total Cost.	Fines Col.	Actual No. Pupils.
1885-6.....	\$471 48	\$116 70	\$4964 78 4482
1886-7.....	3009 88	78 33	2931 55 4537
1887-8.....	1959 39	78 33	1877 05 4564
1888-9.....	2097 65	87 96	2009 69 4647
1889-90.....	2520 04	2 82	2517 22 5302
1890-1.....	2611 96	75 46	2537 50 4812
1891-2.....	3943 09	103 15	3839 94 4842
1892-3.....	3346 98	82 58	3264 40 5705
1893-4.....	3895 00	71 21	3324 79 5608
1894-5.....	3405 81	18 29	3387 52 5430
1895-6.....	2229 95	256 36	1973 59 5743

In the above amounts is included the cost of a large supply of supplementary reading—seven sets of books to each grade. The line of a text-book varies in accordance with the grade and nature of the book, from two to ten years. Its average is about five years.

2. It secures uniformity of text-books. People moving to and from the city are never inconvenienced or put to additional expense for books.

3. It enables us to begin work the very first day of the term. There is never any delay. All books and supplies are sent to the various buildings before the schools open and are assigned to the pupils immediately upon

enrollment. In poor districts this is an especially marked advantage.

4. It greatly increases the attendance. It gives the poor boy and girl an equal opportunity with the rich without humiliating or wounding them. This is particularly true in high school, and during times of depression.

5. It very greatly facilitates the exchange of old text-books for new. This is generally done without the knowledge or protest of parents and at very little extra expense to the board of education. Oftentimes it is more economical to exchange a worn-out set of books purchased at wholesale, for a new set, purchased in like manner, than to replenish the old stock.

6. It banishes many petty inconveniences and annoyances and gives thereby a general toning and business dignity to the entire school system.

#### DISADVANTAGES.

I know of only two and these of little importance from the generally accepted practical standpoint.

1. It removes from the homes those priceless treasures—old school books. These old books are the only libraries possessed by thousands of homes throughout our land, and to remove the necessity of their purchase will be to deprive these families of their most ennobling and refining influence. Then, too, there is clinging to these old books a thousand incidents and associations of our youthful days which appeal to our finer emotions with ever increasing tenderness as the years roll on. Yes, this is sentiment, but is it any the less worthy of consideration for that?

2. Buying books is largely a habit, and should be wisely fostered. The free text-book system has a deadening effect instead.

We offer to sell text-books to pupils at wholesale rates, but not a tithe of one per cent even in the high school, take advantage of it.

In addition let me say that if proper precautions are taken, there need be no fear of the spread of contagious diseases through the medium of the oft used text-book. So far as I can ascertain there has never been a complaint of this nature nor an epidemic since the adoption of the system thirteen years ago. Whenever a pupil is stricken with a serious contagious disease, all his books are carefully burned and new ones issued.

In conclusion permit me to say that aside from the disadvantages above mentioned, the free text-book system is a decided success in this city. We never hear of any dissatisfaction nor any desire expressed to return to the old plan. It is regarded by everyone as a long step in advance and one worthy of imitation. Personally, I should dislike very much to return to the old system.

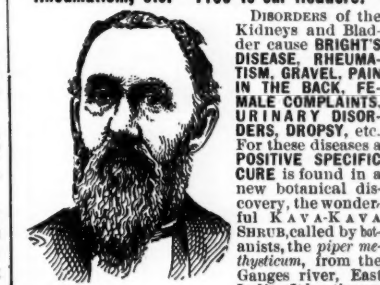
#### HORSES ARE SURELY GETTING SCARCE.

F. J. Berry, the horse dealer, said at the recent convention held in Chicago: "As Illinois and Iowa have one-fifth of all the horses in the United States we commenced a systematic canvass by mail to ascertain the condition of the horse industry throughout Illinois. We selected 5,000 farmers and breeders from our list of ad-

dressers of those who produced horses in the State of Illinois. These 5,000 farmers and breeders throughout the state included the medium farmers, also the largest and best breeders, and are divided in about equal numbers in every town throughout the state. We addressed each a letter by mail and we only took those who had corresponded with us within two years about horses they had on hand to sell, the object being to ascertain from each farmer how many market horses he had outside of his regular horses used in farm service. Also the number of colts coming on, and the present colts under three years old in his section, and from the best information we could gather from this most thorough system of canvassing the state we are compelled to say that outside of the regular farm horses used to carry on the work of the farm, there is not 25 per cent of the horses in the State of Illinois, including colts and all, that there was three years ago, and taking Illinois as a sample of our horse-raising sections we believe that our supply is greatly reduced in numbers. And not only in numbers, it is far below the grade in quality. Only a small per cent of the supply on hand is good enough for the great demand."

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